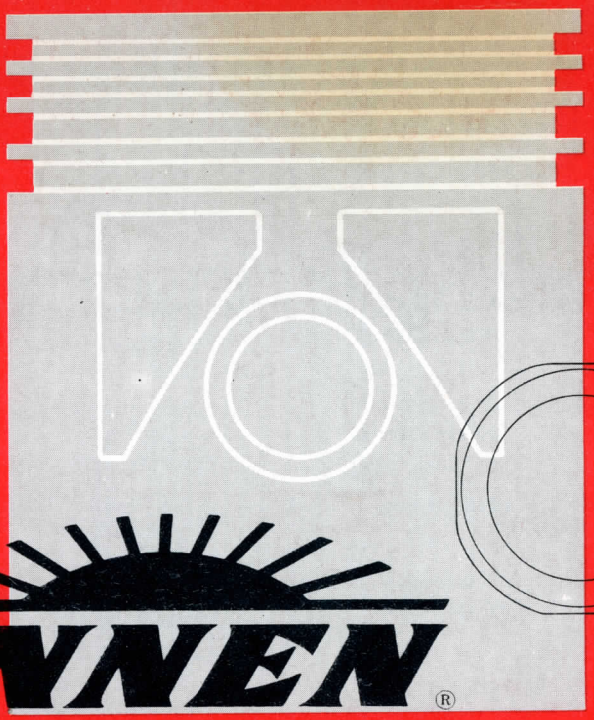
X-SP-6000G
January 1957



SUNNEN®

automotive catalog

equipment

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SUNNEN PRODUCTS COMPANY LTD., CHATHAM, ONTARIO.
U.S. PLANT—ST. LOUIS, MO.

THE ONLY PIN FITTING METHOD THAT MEASURES THE HOLE

- **Fastest and most accurate pin fitting method in the industry**
- **Guarantees the exact pin fit required by today's high speed, high horsepower, high compression engines**
- **Enables you to fit pins with a pre-run-in fit for trouble-free performance and long life**
- **Perfect for both clearance and press fits**
- **New Sunnen AG-300 tenth-reading precision gage assures twice the accuracy in half the time**

Here's why the Sunnen Pin Fitting and Rod Reconditioning Method is Best!

It's the **only** method that measures the hole itself to guarantee the correct fit.

It's the **only** method that does both piston pin holes at once — assures perfect alignment.

Gives you pre-run-in fit with full bearing surface — no high spots, ridges, or threads — no bell-mouth, out-of-round, or taper.

Fast stock removal — does eight pistons in fifteen minutes — accuracy guaranteed to a "tenth".

Easy to use — requires no jigs, fixtures, clamps, or special set-ups.

Mandrels available for complete diameter range .370″ to 3.300″

Here's what you get with the

MBB-1299

- Floor type precision honing machine, ready to use, powered by ½ H.P., 110 V., 60 cycle motor (special motor supplied on order).
- AG-300 Precision Gage
- AAN-45 Pin Vise
- Work Light
- 2 — SL-29 Mandrel Racks
- LBN-700 Stone Dressing Stick
- LBN-740 Work Support
- LN-0116 Eccentric Sleeve
- 10-gallons Honing Oil
- Operating Instructions
- Pin Fitting Chart
- A supply of promotion material

Floor space: 27¼″ w, 28½″ d, 51″ h.

Shipping Weight: 450 lbs. (approx.)

Mandrel Stones, Truing Sleeves and other accessories must be ordered separately.

Compare these exclusive time and work-saving features of Sunnen Pin Fitting Machines

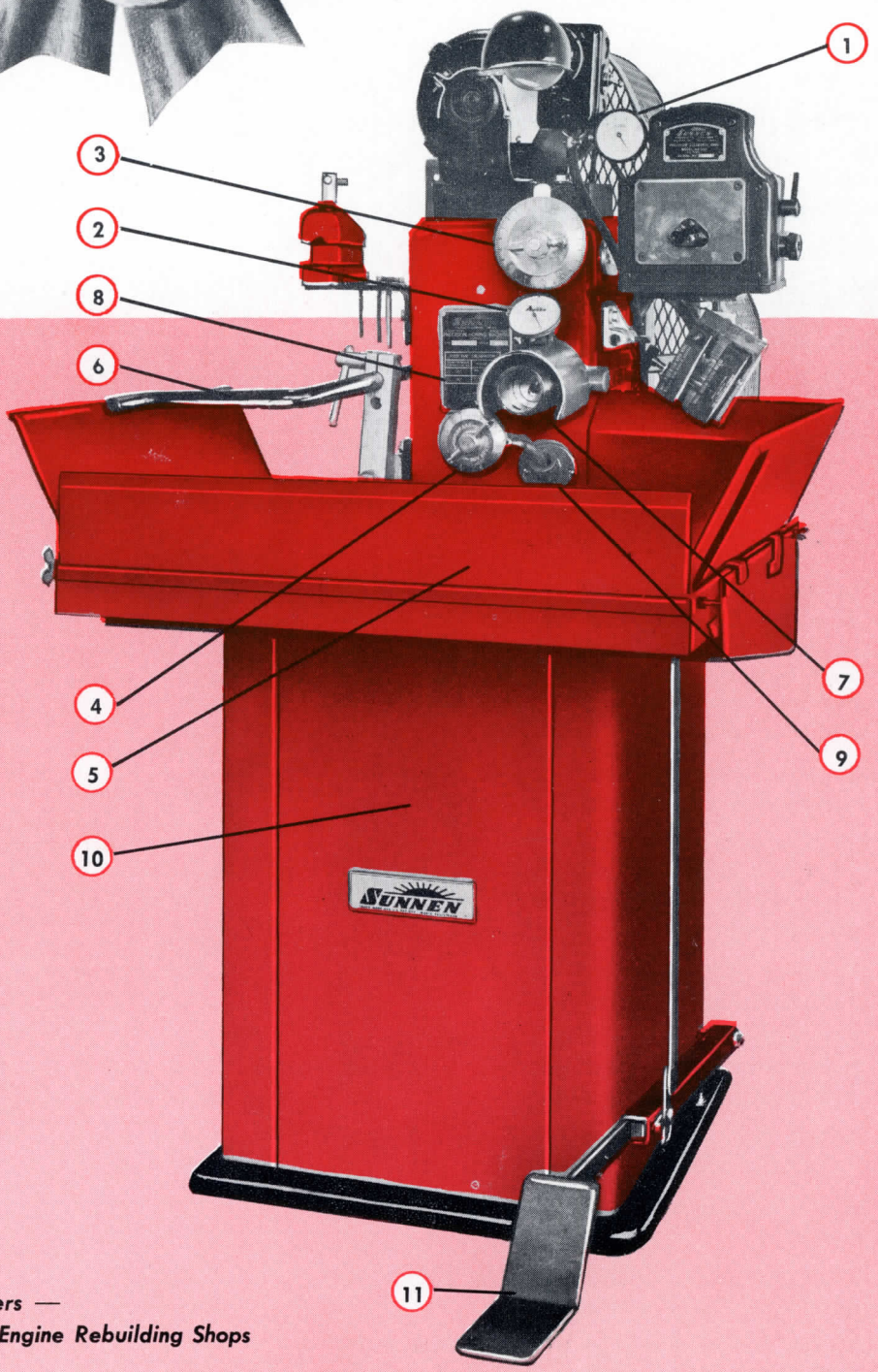
1. Precision Gage reads "tenths" **on a dial** — measures the hole — a **must** for accurately measuring both clearance and press fits. Gage range .720″ to 2.687″ for pin fitting and rod reconditioning work (gage points available to extend range to 3.375″).
2. Honing Dial tells WHEN to gage — cuts honing time in half — prevents going oversize.
3. Micrometer Stone Feed Dial gives accurate control of stock removal, to the last "tenth". No other method can remove as little as one "tenth" for the right fit.
4. Honing Pressure Control cuts honing time, gives longer stone life.
5. Non-splash Drain Pan is quickly adjustable for short or long mandrels.
6. Adjustable Work Support absorbs honing torque for rods and heavy parts.
7. Ball-bearing spindle, four speed drive, heavy-duty capacitor motor, with belt guard.
8. Machine-mounted chart of exact pin fitting tolerances for all pin fit types.
9. Flexible oil line provides flow of oil along the honing mandrel for fast cutting action, and to keep parts clean and cool.
10. Large oil reservoir with separate settling tanks, easily cleaned.
11. Light pressure Foot Pedal, adjustable for ease of operation.

For REAL precision . . .

© 1957 SUNNEN PRODUCTS COMPANY LTD.

NEW SUNNEN MBB-1299 HONING MACHINE

For Precision Pin Fitting and Rod Reconditioning



A heavy duty machine recommended for jobber shops, fleet shops, specialty and engine rebuilding shops, and large garages. Particularly recommended for large volume pin fitting and rod reconditioning work. Equipped with the Model AG-300 Sunnen Precision Gage.

Applications:

- **PIN FITTING in pistons and con-rods**
- **CON-ROD RECONDITIONING**
- **KING PIN FITTING**
- Hydraulic brake cylinders
- Air compressors
- Small bore engines
- Diameter range: .370″ — 3.300″

Recommended by Motor Manufacturers — Used in Jobber and Engine Rebuilding Shops

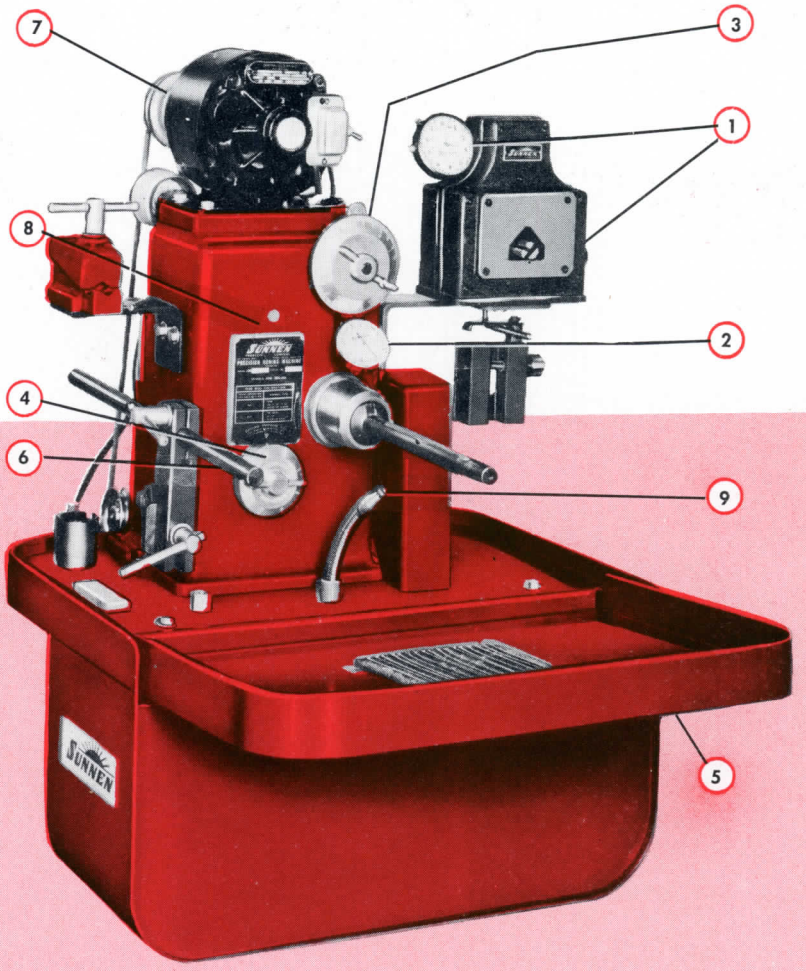
use abrasives . . . manufacturers do!

SUNNEN LBA-666 PRECISION PIN FITTING MACHINE

Makes Pin Fitting Easier and Faster Than Ever

A bench type precision pin fitting machine. For shops where volume does not justify the heavy duty machine, yet whose shop standards require the highest quality workmanship. *Ideal also for mobile shops.* Gives you the same precision as the heavy duty machine (see preceding pages) except in a lower priced, lighter bench model. Not recommended for large volume pin fitting work or heavy duty rod reconditioning. Mandrels available for complete diameter range .370″ to 3.300″ (as supplied, range is .720″ to 1.020″). Equipped with the AG-300 Sunnen Tenth-reading Precision Gage.

- **Perfect for both clearance and press fits**
- **Equipped with the Sunnen AG-300 tenth-reading precision gage**
- **No danger of going oversize — honing dial tells you when to gage the hole**
- **Fastest and most accurate pin fitting method in the industry**



Profit-Making Features of the LBA-666

1. Precision Gage reads directly in "tenths", measures the hole — a *must* for accurately measuring both clearance and press fits. Gage reads .720″ to 2.687″ for pin fitting and rod reconditioning work (gage points available to extend range to 3.375″).
2. Honing Dial tells you when to gage, prevents going oversize, speeds the job.
3. Micrometer Stone Feed Dial gives exact control of stock removal. No other method can remove as little as one "tenth" for the right fit.
4. Honing Pressure Control saves honing time, gives longer stone life.
5. Non-splash Sliding Drain Pan quickly adjustable to both short and long mandrels. Folds out of way when not in use.
6. Adjustable work support absorbs honing torque for rods and heavy parts.
7. Sleeve-bearing spindle, two speeds, ¼ H.P. motor.
8. Machine-mounted Chart of exact pin fitting tolerances for all pin fit types.
9. Adjustable oil flow line provides flow of oil along the honing mandrel for fast cutting action.

Here's What You Get With The LBA-666:

- Bench type wet honing machine with new Honing Dial, powered by ¼ H.P., 110 V., 60 cycle motor (special motor supplied on order).
- AG-300 Precision Gage
- AAN-45 Pin Fitting Vise
- LBN-2W Mandrel Set (working range .720″-1.020″)
- LBN-700 Stone Dressing Stick
- LBN-740 Work Support
- SL-29 Mandrel Rack
- LN-0116 Eccentric Sleeve
- 5-gallons Honing Oil
- Plastic Machine Cover
- Operating Instructions
- Pin Fitting Chart

Dimensions: 23″ w. x 31″ d. (pan extended) x 34″ h.
24″ above, 10″ below bench

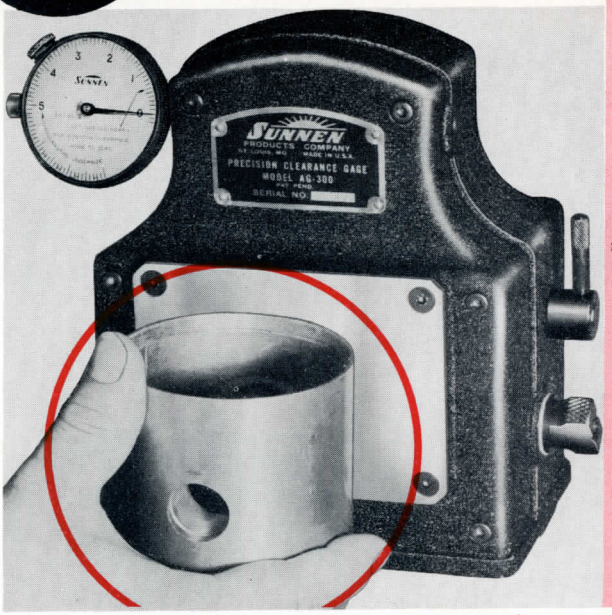
Shipping Weight: 300 lbs. (approx.)

For REAL precision . . .

Don't Guess... Gage!

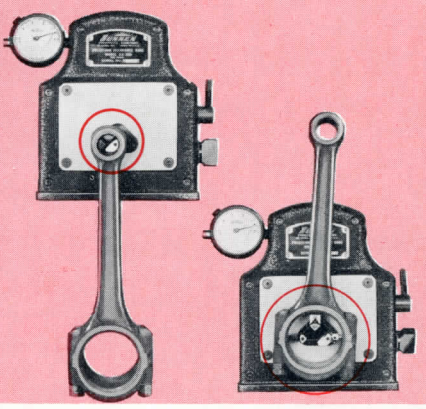
SUNNEN AG-300 PRECISION GAGE

for Pin Fitting and Rod Reconditioning - *Range: .720" to 3.375"*



Gives you the exact fits required by today's high horsepower, high speed, high compression engines.

The Only Gage Made For Both Clearance And Press Type Pin Fits, and Journal End of Con-Rods



AG-300

PRECISION GAGE, as shipped, for range .720"-2.687". (Gage points available to extend range to 3.375".) Includes setting fixture, calibrator ring, medium and large extension point sets, accessory case, mounting bracket, and instructions.

Shipping Weight: 25 lbs. (approx.)

Reads directly *in "tenths"* on a dial — Takes the Guess Out Of Pin Fitting

- Your best insurance against comebacks!
- Assures the correct fit — one you can guarantee!
- Anyone can use it — no "feel" required!
- Measures size instantly!
- Wear compensated gage points assure permanent accuracy!

No pin fit should ever be made without precise gaging. The only way to actually *know* the fit is to *measure the hole.*

Exact pin size is transferred to the AG-300 gage by means of a wear-compensated setting fixture.

The gage is ruggedly constructed, with no delicate parts that can be damaged by vibration or shock. All moving parts are enclosed and protected by the housing.

Replacement Gage Point Sets

Consist of two gage points and a centralizer point. Order by number, as follows:

For all Gages

AG-210 Standard Set. Range: .720" to 1.530".

AG-340 Extra Large Extension Set. Range: 2.625" to 3.375".

For Gages with Serial Numbers thru 4000

AG-220 Medium Extension Set. Range: 1.500" to 2.250".

AG-230 Large Extension Set. Range: 1.937" to 2.687".

For Gages with Serial Numbers above 4000

AG-420 Medium Extension Set. Range: 1.500" to 2.250".

AG-430 Large Extension Set. Range: 1.937" to 2.687".

Shipping Weight, each: ½ lb. (approx.)

LBA-665 Special Honing Machine for IHC — McCormick-Deering This Wet Honing Machine is the LBA-666, (see opposite page) with additional selected mandrels to meet specialized needs of McCormick-International Harvester dealers. Diameter range as equipped is .660" to 1.700". Mandrels available for complete range .370" to 3.300". Consists of:

- 1 LBA-666 Wet Honing Machine and regular accessories
- 1 LBN-3W Mandrel Set
- 1 LBN-4W Mandrel Set
- 2 SL-660 Mandrels
- 1 ST-660 Truing Sleeve
- 2 SL-1600 Mandrels
- 1 ST-1600 Truing Sleeve
- 1 SL-1 Stone
- 1 SL-3 Stone
- 1 SL-5 Stone
- 1 SL-13 Stone
- 1 SL-30 Mandrel Rack

Shipping Weight: 306 lbs. (approx.)

LBA-650D Pin Fitting Machine

A two-speed, bench type similar to LBA-666, except furnished with the old-style DDN-35 gage instead of the AG-300 Precision Gage. *Shipping Weight: 280 lbs. (approx.)*

LBA-664 Special Honing Machine for IHC Truck Dealers (IHC number SE-1811) Consists of:

- 1 LBA-666 Wet Honing Machine
- 2 SL-1080 Mandrels
- 1 ST-1080 Truing Sleeve
- 2 SL-1300 Mandrels
- 1 ST-1300 Truing Sleeve
- 2 SL-5 Stones, Roughing
- 2 SL-13 Stones, Finishing

use abrasives . . . manufacturers do!

Another Shop Profit!

NEW SUNNEN ROD RECONDITIONING EQUIPMENT

Rod Reconditioning is a MUST!

ALL LARGE engine rebuilders and remanufacturers are using reconditioned rods. Now, with this new Sunnen equipment, you can give the same service to *your* customers. This equipment is priced within the range of all shops, and is a profitable investment.

WHY ROD RECONDITIONING? Today's high horsepower engines have thin-shell precision rod inserts which require correct crush and *perfect backing* in the rod, in order to carry the heavy bearing loads at high rotating speeds.

Connecting rods distort and go out-of-round in service. Putting new inserts into such worn rods invites bearing failure.

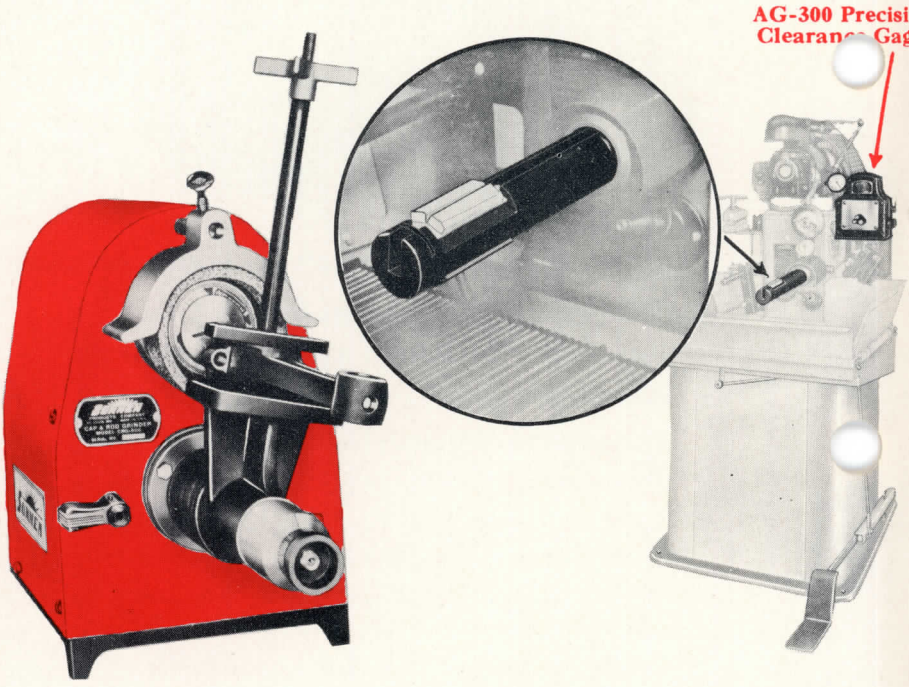
Sunnen Rod Reconditioning brings the rod bore *back to original standard size* — without shocking the rod. It produces an absolutely round and straight bore within factory tolerances, with correct surface finish — insures perfect seating of new inserts.

This equipment consists of the Cap and Rod Grinder, and Rod Honing Units to handle passenger car and truck, tractor, and industrial rod sizes up to 3.3″ diameter. Average reconditioning time for a set of 8 passenger car rods is less than forty-five minutes, bench-to-bench time.

Sunnen Rod Reconditioning Equipment

1. Rounds out your customer service and *increases your shop profits.*
2. Gives you a complete rod and pin shop if you are already doing pin fitting work.
3. It's the fastest — and most accurate — way to recondition journal end of rods.
4. Produces a honed bore — the same as factory rods.
5. Grinds parting line straight and square with face of rod, prevents distortion in assembly.
6. Handles rods up to 3.3″ diameter, with accuracy guaranteed to factory specifications.
7. Keeps your rod inventory at a minimum since you can give over-the-counter service on your customer's own rods.

"A SIMPLE METHOD OF DOING INDIVIDUAL SETS OF I WITH AN ABSOLUTE MINIMUM OF STOCK REMOVE



NEW SUNNEN CAP AND ROD GRINDER

CRG-500 (supplied with ¼ H.P., 110 V., 60 cycle, single phase motor) includes rod clamping fixture, diamond dresser, and cleaning brush. See Page 7 for Rod Reconditioning Honing Units.

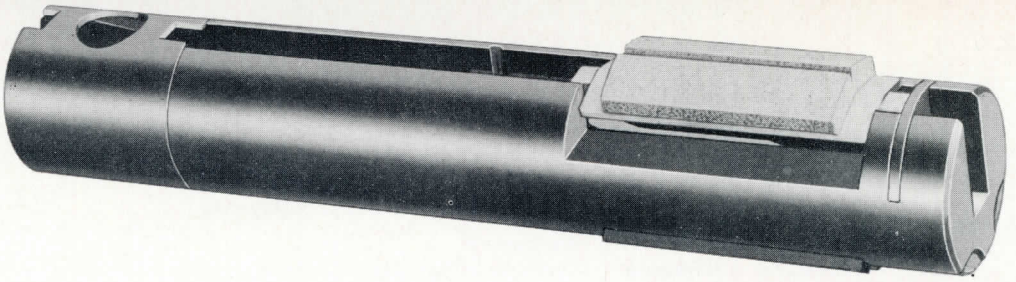
Shipping Weight: 100 lbs. (approx.)

REPLACEMENT PARTS

*CRG-360	Rod Clamping Fixture	Ship. Wt: 11 lbs.
*CRG-328	Diamond Dresser Point (part of CRG-330)	Ship. Wt: ½ lb.
*CRG-330	Diamond Dresser	Ship. Wt: ¾ lb.
CRG-303	Grinding Wheel (for large truck and diesel rods)	Ship. Wt: 1½ lbs.
*CRG-305	Grinding Wheel	Ship. Wt: 1½ lbs.
*LBN-427A	Cleaning Brush	Ship. Wt: ¾ lb.

For ROD RECONDITIONING (JOURNAL END)

NEW TYPE CR HONING UNITS — Range: 1.900" — 3.300"



After cap and rod faces have been ground to reduce the diameter of the bore at right angles to the parting line, these Honing Units are used to bring the bore back to standard size.

They were especially developed to remove stock from the reduced bore without enlarging the diameter across the parting line.

These Honing Units are guaranteed to produce a round and straight rod bore and allow you to recondition the rod **to original factory size,** assuring a perfect fit of inserts.

How to Order

1 Order SET LBN-61 for complete coverage of most popular cars and light trucks. Covers diameters from 1.900″ to 2.500″. Includes everything needed for honing journal end of con-rods.

2 Order individual honing units as needed. Each is complete with stone, wedge, wedge plates, and shoes.

CONDENSED CHART

Most Popular Applications For Type CR Rod Reconditioning Honing Units 1946-1956

PASSENGER CARS	CR-1900	CR-2100	CR-2300	CR-2500	CR-2700	CR-2900	CR-3100
BUICK		■	■				
CADILLAC		■	■	X			
CHEVROLET		■	■				
CHRYSLER		■	■				
DESOTO		■	■				
DODGE	■	■	■				
FORD		■	■				
HUDSON	■	■	■				
LINCOLN			■	X			
MERCURY		■	■				
NASH	■	■	■				
OLDSMOBILE		■	■				
PACKARD		■	■				
PLYMOUTH	■	■					
PONTIAC		■	■				
STUDEBAKER	■	■	■				
WILLYS	■	■					
TRUCKS							
CONTINENTAL	■	■	■	X	X		X
DODGE	■	■	■	X			
FORD		■	■	X			
GMC			■	X	X		
HERCULES		■			X	X	X
INT'NAT'L		■		X	X		X
MACK	■	■		X		X	X
REO			■	X			X
WAUKESHA		■	■		X	X	X
WHITE			■	X			

■ Included in Set LBN-61.

COMPLETE HONING UNIT			REPLACEMENT PARTS (included with each honing unit)								
			STONE (2 in pkg)		SHOE (2 in box)		WEDGE PLATE			WEDGE	
ORDER Part No.	Size Range (inches)	Ship Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No. Large	Part No. Small	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.
CR-1900*	1.900-2.100	6½	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-100	¼
CR-2100*	2.100-2.300	8	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-100	¼
CR-2300*	2.300-2.500	9½	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-100	¼
CR-2500	2.500-2.700	11¼	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-100	¼
CR-2700	2.700-2.900	13	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-200	¼
CR-2900	2.900-3.100	14½	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-200	¼
CR-3100	3.100-3.300	16	CR-14	1½	CR-50D	¾	CR-120	CR-110	½	CR-200	¼

For information on larger sizes write the Sunnen Sales Dept.

*Included in Set LBN-61.

COMPLETE STONE CHART for MANDRELS and HONING UNITS

For Use with Mandrels	For Use with Flow of Honing Oil			For Use Dry		Std. Pkg.	Ship. Wt. Lbs. per Std. Pkg.
	Roughing	Fine Finishing	Medium Finishing	Roughing	Finishing		
SL-480 thru SL-660	SL-1	SL-3		SL-1	SL-3	6	½
SL-720 and up	SL-5	SL-13	SL-7	SL-5	SL-7	6	1¼
BBN Rod Grinding Outfit	SL-8	SL-17				6	1¼
HB-1000 thru HB-1375	HB-7	HB-13			HB-7	6	2
Extension Stone for HB Mandrels	XHB-7	XHB-13			XHB-7	6	2¼
SC-1000 thru SC-1375	SC-7	SC-13			SC-7	6	1¾
Extension Stone for SC Mandrels	XSC-7	XSC-13			XSC-7	6	2
ML Series	ML-5 ML-8 *	ML-13 ML-17 **	ML-7 ML-14 *	ML-5	ML-7	12 12	¾ ¾
PL Series	PL-5 PL-8 *	PL-13 PL-17 **	PL-7 PL-14 *	PL-5	PL-7	6 6	¾ ¾
KL Series	KL-5	KL-13	KL-7 KL-14 *	Do not use dry		12	¾
KB Series	KB-7	KB-13		Do not use dry		12	¾
LH Series	LH-7	LH-13		Do not use dry		6	¾
LJ Series	LJ-7	LJ-13		Do not use dry		6	¾
UL Series	UL-5		UL-7	UL-5	UL-7	4	¾
CR Series			CR-14 CR-12 ***	Do not use dry		2	¾

*For enlarging pin hole in press-fit type con-rod forgings.

**For extra-fine finishing, if desired, after PL-8 or ML-8 roughing operation.

***Recommended for con-rods having large bearing surface — usually large truck, tractor, and diesel rods.

PRECISION GRADED HONING STONES

Sunnen honing stones are manufactured and precision-graded by our own method. This exclusive process guarantees the fastest cutting stone for each job, as well as the correct surface finish. Equally important, it insures long stone life and thereby most economical operation.

Sunnen stone grading assures consistent performance and uniform stone wear - - - important particularly in pin fitting, rod reconditioning, and cylinder honing. It is your guarantee for turning out precision work.

SUNNEN®

HONING MACHINE
SUPPLIES for

- ✔ PISTON PIN FITTING
- ✔ CON-ROD PIN FITTING
- ✔ KING PIN FITTING
- ✔ CON-ROD RECONDITIONING
- ✔ OTHER APPLICATIONS

MANDRELS · HONING UNITS TRUING SLEEVES · STONES COMPLETE SETS

The following eleven pages list the various honing tools and supplies for all models of Sunnen Honing Machines. Headings on each page give the type of work, honing tools recommended, and the size range.

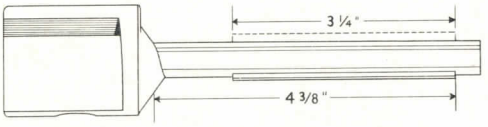
Complete Stone Chart is on Page 8 — Complete Sets are on Pages 16 and 17

For PISTON PIN FITTING

ECONOMY MANDRELS

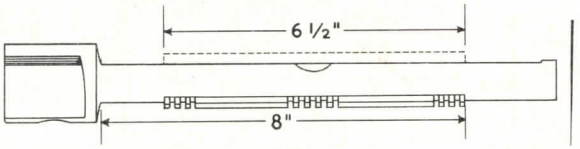
Range: .480" —1.700"

Low cost, die-cast mandrels for pin fitting and general purpose use.



SIZE RANGE .480" TO .720"

Mandrel No.	Size Range	Ship. Wt. Lbs.	Truing Sleeve No.	Ship. Wt. Lbs.
SL-480○	.480" to .540"	1	ST-480	¾
SL-540○	.540" to .600"	1	ST-540	¾
SL-600○	.600" to .660"	1	ST-600	¾
SL-660○	.660" to .720"	1	ST-660	¾



SIZE RANGE .720" TO 1.700"

Mandrel No.	Size Range	Ship. Wt. Lbs.	Truing Sleeve No.	Ship. Wt. Lbs.
SL-720 ■	.720" to .780"	1½	ST-720	1½
SL-780 ■	.780" to .840"	1½	ST-780	1½
SL-840 ■	.840" to .900"	1½	ST-840	2¼
SL-900 ■	.900" to .960"	1¾	ST-900	2
SL-960 ■	.960" to 1.020"	2	ST-960	2
SL-1020 ●	1.020" to 1.080"	2	ST-1020	2½
SL-1080 ●	1.080" to 1.140"	2	ST-1080	2½
SL-1140 ●	1.140" to 1.200"	2¼	ST-1140	2¼
SL-1200 ●	1.200" to 1.300"	2¼	ST-1200	3¼
SL-1300 □	1.300" to 1.400"	2¼	ST-1300	2¾
SL-1400 □	1.400" to 1.500"	2¼	ST-1400	2½
SL-1500 □	1.500" to 1.600"	2¾	ST-1500	4
SL-1600	1.600" to 1.700"	2¾	ST-1600	3¾

○ Included in Set LBN-1.
■ Included in Set LBN-2W.
● Included in Set LBN-3W.
□ Included in Set LBN-4W.

Use of Truing Sleeves It is very important that you have a Truing Sleeve for each size SL Mandrel. Truing Sleeves are used to keep mandrels and stones parallel and in good working condition.

Mandrels for Buick Pistons Only

Extra wide shoes bridge slot in Buick piston pin holes.

Mandrel No.	Std. Pin Diameter	Ship. Wt. Lbs.	Truing Sleeve No.	Ship. Wt. Lbs.
SL-812	.812	1½	ST-812	1½
SL-875	.875	1½	ST-875	1¾
*SL-940	.940	1½	ST-940	2

*Requires LN-0116 Eccentric Spindle Sleeve.

How to Order

1. Order mandrel and truing sleeve from this table.
2. Order stones from chart on Page 8.

CONDENSED CHART

Most Popular Applications For Type SL Pin Fitting Mandrels—1946-1956

PASSENGER CARS	SL-480	SL-540	SL-600	SL-660	SL-720	SL-780	SL-812	SL-840	SL-875	SL-900	SL-940	SL-960	SL-1020	SL-1080	SL-1140	SL-1200	SL-1300	SL-1400	SL-1500
BUICK							X		X		X								
CADILLAC							■					■							
CHEVROLET							■			■									
CHRYSLER							■					■							
DESOTO							■			■									
DODGE							■			■									
FORD					■		■			■									
HUDSON					■					■		■							
LINCOLN					■			■		■									
MERCURY					■					■									
NASH						■		■		■		■							
OLDSMOBILE								■				■							
PACKARD								■				■							
PLYMOUTH								■				■							
PONTIAC										■		■							
STUDEBAKER					■			■				■							
WILLYS					■	■		■											
TRUCKS																			
CHEVROLET								■		■									
CONTINENTAL		○		○				■					●		●				□
CROSLEY			○																
DODGE								■		■		■	●						
FORD					■			■		■									
GMC										■		■	●		●				□
INT'NAT'L								■		■			●						□
MACK								■				■	●				□	□	
STUDEBAKER					■			■											
WHITE								■				■			●	●			

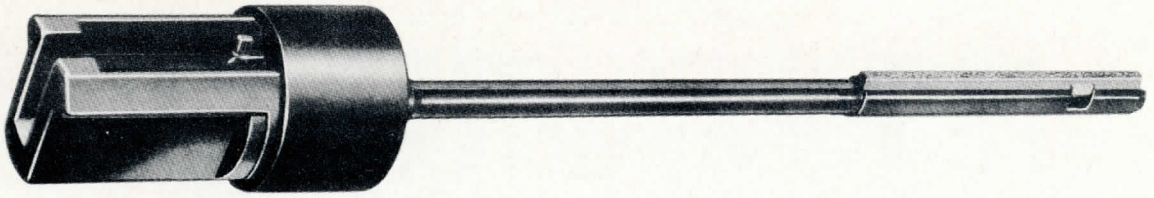
○ Included in Set LBN-1.
■ Included in Set LBN-2W.
● Included in Set LBN-3W.
□ Included in Set LBN-4W.

For PISTON PIN FITTING

ALL-STEEL HONING UNITS

Range: .370" — .713"

Note: Can also be used for small king pin bushings.



Especially useful on Bantam and Foreign Cars, and Small Tractors.

Long-wearing Honing Units for small piston pin holes, distributor bushings, small king pin bushings, and similar holes within the range.

Honing Units are completely assembled with roughing stone, ready for use. Each Unit consists of steel mandrel with wedge, adapter, truing sleeve, and stone. A finishing stone is also included in the package.

COMPLETE HONING UNIT

ORDER Part No.	Size Range (Inches)	Length of Honing Stone Surface (Inches)	Ship. Wt. Lbs.
LH-370	.370-.384	3½	2
LH-432	.432-.446	3½	2
LJ-495	.495-.525	4½	2½
LJ-526	.526-.557	4½	2½
LJ-557	.557-.587	4½	2½
LJ-681	.681-.713	4½	2½

REPLACEMENT PARTS

(Included in Complete Honing Unit)

MANDREL (Inc. Wedge)		STONES (6 to a Box)			TRUING SLEEVE	
Part No.	Ship. Wt. Lbs.	Roughing	Finishing	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.
LH-370M	¼	LH-7	LH-13	½	S-370	½
LH-432M	¼	LH-7	LH-13	½	S-432	½
LJ-495M	½	LJ-7	LJ-13	½	S-495	¾
LJ-526M	½	LJ-7	LJ-13	½	S-526	¾
LJ-557M	½	LJ-7	LJ-13	½	S-557	¾
LJ-681M	½	LJ-7	LJ-13	½	S-681	¾

Notes:

1 **These Honing Units must be used with a flow of honing oil.**

2 Allow for extra stock in new bushings, to be sure Honing Unit will enter hole.

3 Eccentric Sleeve LN-0116 required with these Honing Units.

CONDENSED CHART

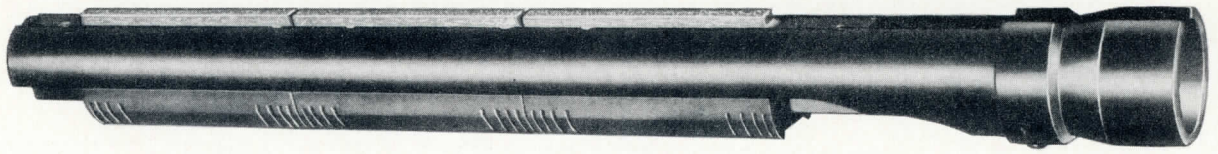
Most Popular Applications For Types 3ML and 3PL Pin Fitting Honing Units 1946-1956

PASSENGER CARS	3ML-750	3ML-781	3ML-812	3ML-843	3ML-875	3ML-906	3ML-937	3ML-968	3PL-1000	3PL-1062	3PL-1125	3PL-1187	3PL-1250	3PL-1375	3PL-1500
CADILLAC				X				X							
CHEVROLET			X		X										
CHRYSLER			X				X								
DESOTO			X		X										
DODGE			X		X										
FORD	X		X		X										
HUDSON	X		X				X								
LINCOLN	X		X		X										
MERCURY	X				X										
NASH		X	X	X	X		X								
OLDSMOBILE			X				X								
PACKARD				X			X								
PLYMOUTH			X				X								
PONTIAC					X		X								
STUDEBAKER	X			X			X								
WILLYS	X		X	X											
TRUCKS															
CHEVROLET				X		X									
CONTINENTAL				X					X			X		X	
DODGE				X		X		X			X				
FORD	X			X		X									
GMC							X	X	X		X		X		X
HERCULES	X				X				X		X	X			
INT'NAT'L					X	X				X					
MACK				X					X		X		X	X	
REO								X		X	X		X		X
STUDEBAKER	X				X										
WHITE					X				X			X	X		

For PISTON PIN FITTING

LIFE-TIME HONING UNITS

Range: .744" — 2.625"



Especially recommended for fast, accurate piston pin fitting in jobber shops, fleet shops, large garages and specialty shops. For passenger cars, and bus, truck, tractor, and diesel engines.

Honing Units are completely assembled, ready for use. Each unit consists of mandrel with wedge, medium finish honing stones, replaceable wear shoes, and truing sleeve.

Order in Convenient Sets — See Page 17.

COMPLETE HONING UNIT				REPLACEMENT PARTS (Included in Complete Honing Unit)						
				STONES		TRUING SLEEVE		SHOE (2 in Box)		SHIM SETS
ORDER Part No.	Size Range (Inches)	Length of Honing Stone Surface (Inches)	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.
3ML-750 *	.744- .781	7½	3½			ST-750	1½	UA-B	¼	
3ML-781 *	.775- .812	7½	3½			ST-781	1½	UA-B	¼	
3ML-812 *	.806- .843	7½	3½	ML-7	¾	ST-812	1½	UB-B	¼	
3ML-843 *	.838- .875	7½	4¾	(12 in Box) Medium Finish Stone. (For other stones see page 8.)		ST-843	2¼	UB-B	¼	
3ML-875 *	.869- .906	7½	4¼			ST-875	1¾	UB-B	¼	
3ML-906 *	.900- .937	7½	4¾			ST-906	2	UC-B	¼	
3ML-937 *	.931- .968	7½	4¾			ST-937	2	UC-B	¼	
3ML-968 *	.962-1.000	7½	5			ST-968	2	UC-B	¼	
3PL-1000 *	.990-1.051	9¾	2½			ST-1000	2½	VA-B	¼	LN-1143
3PL-1062 *	1.052-1.114	9¾	2¾			ST-1062	2½	VA-B	¼	LN-1143
3PL-1125 *	1.115-1.176	9¾	3			ST-1125	2¼	VB-B	¼	LN-1143
3PL-1187 *	1.177-1.229	9¾	3			ST-1187	2¼	VB-B	¼	LN-1143
3PL-1250 *	1.230-1.354	9¾	3¼			ST-1250	3¼	WB-D	½	LN-1160
3PL-1375 *	1.355-1.479	9¾	3¼	PL-7	¾	ST-1375	2¾	WC-D	½	LN-1158
3PL-1500 *	1.480-1.604	9¾	4	(6 in Box) Medium Finish Stone. (For other stones see page 8.)		ST-1500	4	WD-D	½	LN-1159
3PL-1625 *	1.605-1.729	9¾	4¾			ST-1625	3¾	WD-D	½	LN-1159
3PL-1750	1.730-1.854	9¾	6			ST-1750	5½	WE-D	½	LN-1159
3PL-1875	1.855-1.979	9¾	6¾			ST-1875	4	WE-D	½	LN-1159
3PL-2000	1.980-2.104	9¾	7½			ST-2000	4¼	WF-D	¾	LN-1159
3PL-2125	2.105-2.229	9¾	8½			ST-2125	5¼	WF-D	¾	LN-1159
3PL-2250	2.230-2.354	9¾	9¼			ST-2250	5	WF-D	¾	LN-1159
3PL-2375	2.355-2.479	9¾	10½			ST-2375	6½	WG-D	¾	LN-1159
3PL-2500	2.480-2.625	9¾	11¾			ST-2500	6¼	WG-D	¾	LN-1159

*Requires Eccentric Sleeve LN-0116

Notes:

1 For best results these Honing Units should be used with a flow of honing oil.

2 Allow for extra stock in new bushings when selecting a Honing Unit, to be sure it will enter hole.

3 Honing Units marked * require eccentric sleeve LN-0116. See Page 20.

4 For fine finish, order separately ML-13 or PL-13 honing stones, respectively.

5 **REPLACEMENT WEDGE** — For 3ML Honing Units, Part No. 3G-P20
For Honing Units 3PL-1000 through 3PL-1750, Part No. 3G-P28
For Honing Units 3PL-1875 up, Part No. 3H-P28

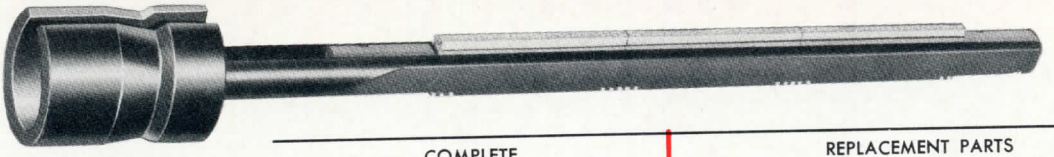
REPLACEMENT TENSION BLOCK — For 3ML-Honing Units, Part No. LN-1533.
For Honing Units 3PL-1000 through 3PL-1750, Part No. LN-1336.
For Honing Units 3PL-1875 up, Part No. LN-1337.

REPLACEMENT RETAINER BLOCK — For 3ML Honing Units, Part No. LN-1529.
For Honing Units 3PL-1000 through 3PL-1750, Part No. LN-1329.
For Honing Units 3PL-1875 up, Part No. LN-1330.

For KING PIN FITTING

ALL-STEEL HONING UNITS

Range: .619" — .750"



Small size all-steel honing units, for king pin work on small foreign cars, and other holes within the range.

Honing Units are completely assembled, ready for use; consist of mandrel with wedge, truing sleeve, and medium finish stone.

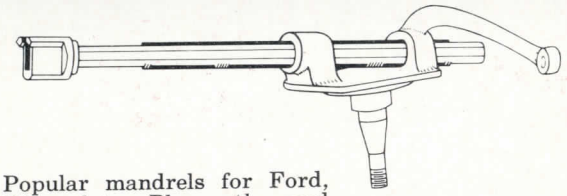
COMPLETE HONING UNIT				REPLACEMENT PARTS (Included in Complete Honing Unit)					
				MANDREL (Inc. Wedge)		STONES (12 per Box)		TRUING SLEEVES	
ORDER Part No.	Size Range (Inches)	Length of Honing Stone Surface (Inches)	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.
3ML-625	.619-.656	7½	2½	3ML-625M	1½	ML-7 Medium finish stone. (For other stones see table on page 8.)	¾	ST-625	¾
3ML-656	.650-.687	7½	2½	3ML-656M	1½			ST-656	¾
3ML-687	.681-.718	7½	3	3ML-687M	1¾			ST-687	¾
3ML-718	.713-.750	7½	3¾	3ML-718M	1¾			ST-718	1½

Notes:

1 These Honing Units must be used with a flow of honing oil.
2 Allow for extra stock in new bushings to be sure honing units will enter the hole.
3 Always replace all three stones at the same time.
4 Work Support LBN-740 is recommended.
5 Honing Units require LN-0116 Eccentric Sleeve.
6 For fine finish, order separately ML-13 honing stones.
7 **REPLACEMENT TENSION BLOCK:** Part No. LN-1533. **REPLACEMENT RETAINER BLOCK:** Part No. LN-1529.

ECONOMY MANDRELS

Range: .795" — 1.070"



- ✓ Popular mandrels for Ford, Chevrolet, Plymouth and other cars and trucks.
- ✓ 12-inch honing stone length handles both bushings at once — saves time — gives perfect alignment.
- ✓ Hones round, straight holes — no bind, no high spots — full bearing surface.

Order in Convenient Sets. See Page 17.

Mandrel No. (Includes) Wedge)	Select Range in which King Pin is found	Ship. Wt. Lbs.	Medium Finish Stone	Ship. Wt. Lbs. (4 stones per pkg.)	Truing Sleeve	Ship. Wt. Lbs.
4UL-781●	.795"- .857"	2½	UL-7	¾	ST-781	1½
4UL-843●	.858"- .920"	2½	UL-7	¾	ST-843	2
4UL-906●	.921"- .982"	2½	UL-7	¾	ST-906	2
4UL-968●	.983"-1.070"	2½	UL-7	¾	ST-968	2

● Included in Set LBN-42.

Notes:

1 When ordering individual UL mandrels, be sure to order (a) MANDREL, (b) STONES, and (c) TRUING SLEEVE separately. Always order four UL-7 stones at a time (standard package of four loads one mandrel).
2 UL-5 Roughing Stones are available for removing considerable amounts of stock. Order separately.
3 Work Support LBN-740 is recommended for easy handling of spindle bodies. See Page 20.
4 For honing spindle bodies with needle bearings, see bottom of Page 14 for Alignment Bushings.
5 For king pin work on small foreign-type cars, see All-steel Honing Units, 3ML-625 through 3ML-718, above.
6 **REPLACEMENT TENSION BLOCK: No. LN-1436**
REPLACEMENT RETAINER BLOCK: No. LN-1429

CONDENSED CHART

Most Popular Applications For Types UL, ML & PL Mandrels and Honing Units For King Pin Fitting (Pages 10 & 11)

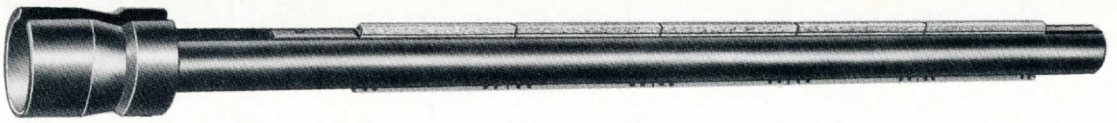
PASSENGER CARS	4UL-781	4UL-843	4UL-906	4UL-968	4ML-781	4ML-843	5ML-906	5ML-968	4PL-1094	4PL-1219	5PL-1312	5PL-1375	5PL-1562
BUICK		●				■							
CADILLAC			●				■						
CHRYSLER	●		●		■		■						
DESOTO	●		●		■		■						
DODGE	●		●		■		■						
FORD	●				■								
LINCOLN			●				■						
MERCURY	●		●		■		■						
NASH		●				■							
OLDSMOBILE		●				■							
PACKARD		●				■							
PLYMOUTH	●				■								
WILLYS	●				■								
TRUCKS													
CHEV.		●	●			■	■		□				
DODGE	●	●	●		■	■	■		□	□	□		
FORD	●		●		■		■		□	□			
GMC		●	●			■	■		□				
INT'NAT'L		●		●		■		X	□	□	□	□	
MACK			●				■		□	□	□	□	
REO			●						□	□	□	□	
STUDEBAKER	●		●		■		■		□				
WHITE									□	□		□	

● Included in Set LBN-42.
■ Included in Set LBN-57.
□ Included in Set LBN-58.

For KING PIN FITTING

LIFE-TIME HONING UNITS

Range: .744" — 2.625"



Permanent type Honing Units. Multiple stone length takes both bushings at once — maintains perfect bushing alignment. Especially desirable in shops that do a large volume of king pin work. The steel mandrel body is not subject to wear — all mandrels have replaceable wear shoes.

Honing Units are completely assembled, ready for use. Each Unit consists of mandrel with wedge, replaceable shoes, medium finish honing stones, and truing sleeve.

See Page 12 for chart of typical applications.

Notes:

1 For best results these Honing Units should be used with a flow of honing oil.
2 Allow for extra stock in new bushings to be sure Honing Unit will enter the hole.
3 Work Support LBN-740 is recommended for easy handling of spindle bodies. See Page 20.
4 For wet honing, ML-7 and PL-7 medium finish stones are recommended for fitting king pins in one operation. For dry honing, if a large amount of stock must be removed, ML-5 or PL-5 stones may be used before finishing with ML-7 or PL-7 stones. The ML-5 and PL-5 stones must be ordered separately.
5 Quantity of stones and shoes required per Honing Unit is designated by the first digit of the Honing Unit part number. Example: 4ML-781 has four shoes and four stones; 5PL-1312 has five shoes and five stones.
6 Honing Units marked * require eccentric sleeve LN-0116. See Page 20.
7 For honing spindle bodies with needle bearings, see bottom of Page 14 for alignment bushings.
8 **REPLACEMENT TENSION BLOCK** — For ML Honing Units, No. LN-1533. For PL Honing Units up through 5PL-1750, No. LN-1336. For PL Honing Units 5PL-1875 and up, No. LN-1337.
REPLACEMENT RETAINER BLOCK — For ML Honing Units, No. LN-1529. For PL Honing Units up through 5PL-1750, No. LN-1329. For PL Honing Units 5PL-1875 and up, No. LN-1330.

COMPLETE HONING UNIT				REPLACEMENT PARTS (Included in Complete Honing Unit)								
				GENERAL PURPOSE STONES†		SHOE (Packed 2 per Box)		TRUING SLEEVE		WEDGE		SHIM SET
ORDER Part No.	Size Range (Inches)	Length of Honing Stone Surface (Inches)	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.
4ML-750*	.744- .781	10	3½	ML-7	¾	UA-B	¼	ST-750	1½	4G-P20	¼	None
4ML-781*●	.775- .815	10	4½	ML-7	¾	UA-B	¼	ST-781	1½	4G-P20	¼	None
4ML-812*	.806- .843	10	4½	ML-7	¾	UB-B	¼	ST-812	2¼	4G-P20	¼	None
4ML-843*●	.838- .875	10	5¼	ML-7	¾	UB-B	¼	ST-843	2¼	4G-P20	¼	None
5ML-875*	.869- .906	12½	5	ML-7	¾	UB-B	¼	ST-875	2¼	5G-P20	¼	None
5ML-906*●	.900- .942	12½	6	ML-7	¾	UC-B	¼	ST-906	2	5G-P20	¼	None
5ML-937*	.931- .968	12½	5¼	ML-7	¾	UC-B	¼	ST-937	2	5G-P20	¼	None
5ML-968*	.962-1.003	12½	6¼	ML-7	¾	UC-B	¼	ST-968	2	5G-P20	¼	None
4PL-1031*	1.021-1.094	13	7	PL-7	¾	VA-B	¼	ST-1031	2½	4G-P28	½	LN-1144
4PL-1094*□	1.084-1.156	13	7¼	PL-7	¾	VA-B	¼	ST-1094	2½	4G-P28	½	LN-1144
4PL-1125*	1.115-1.187	13	6¾	PL-7	¾	VB-B	¼	ST-1125	2½	4G-P28	½	LN-1144
4PL-1219*□	1.209-1.281	13	8½	PL-7	¾	VB-B	¼	ST-1219	3¼	4G-P28	½	LN-1144
5PL-1312*□	1.292-1.375	16¼	9½	PL-7	¾	WB-D	½	ST-1312	2¾	5G-P28	½	LN-1155
5PL-1375*□	1.355-1.500	16¼	9¾	PL-7	¾	WC-D	½	ST-1375	2¾	5G-P28	½	LN-1156
5PL-1562*	1.542-1.625	16¼	10	PL-7	¾	WD-D	½	ST-1562	2½	5G-P28	½	LN-1156
5PL-1625*	1.605-1.750	16¼	13¼	PL-7	¾	WD-D	½	ST-1625	3¾	5G-P28	½	LN-1156
5PL-1750	1.730-1.875	16¼	17¼	PL-7	¾	WE-D	½	ST-1750	5½	5G-P28	½	LN-1156
5PL-1875	1.855-2.000	16¼	18	PL-7	¾	WE-D	½	ST-1875	4	5H-P28	½	LN-1156
5PL-2000	1.980-2.125	16¼	19¼	PL-7	¾	WF-D	¾	ST-2000	4¼	5H-P28	½	LN-1156
5PL-2125	2.105-2.250	16¼	22½	PL-7	¾	WF-D	¾	ST-2125	5¼	5H-P28	½	LN-1156
5PL-2250	2.230-2.375	16¼	24	PL-7	¾	WF-D	¾	ST-2250	5	5H-P28	½	LN-1156
5PL-2375	2.355-2.500	16¼	27½	PL-7	¾	WG-D	¾	ST-2375	6½	5H-P28	½	LN-1156
5PL-2500	2.480-2.625	16¼	29¼	PL-7	¾	WG-D	¾	ST-2500	6¼	5H-P28	½	LN-1156

* Requires Eccentric Sleeve LN-0116. †ML Stones packed 12 per box; PL Stones packed 6 per box.
● Included in Set LBN-57.
□ Included in Set LBN-58.

ALL-STEEL HONING UNITS

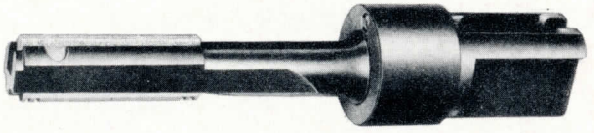
Range: .370" — .713"

See Page 10 for All-Steel Honing Units in this size range, for use in fitting King Pins.

For CONNECTING RODS (PIN FITTING)

ALL-STEEL and LIFE-TIME HONING UNITS — Range: .650" —1.024"

For Con-rod Bushings and Press-fit Type Rods.



All-steel and Life-time Honing Units, especially made for fitting pins in con-rods. Stone and shoe are of proper length to produce straight, round, accurate holes. These Honing Units are a must for handling large quantities of rods — will pay for themselves in longer stone and mandrel life and in time savings.

Life-time Honing Units are completely assembled with roughing stone, ready for use. Each Unit consists of mandrel with replaceable shoe, wedge, mandrel adapter, KL-5 roughing stone, and truing sleeve. A KL-13 finishing stone is also included in the package. KL-14 stones for honing press fit type rods must be ordered separately. The All-steel Honing Units do not have replaceable shoes.

Notes:

1. Always use a flow of honing oil with these mandrels.
2. Allow for extra stock in new bushings to be sure Honing Unit will enter the hole.
3. Use LN-0116 Eccentric Sleeve with these Honing Units. See Page 20.
4. Work Support LBN-740 is recommended for easy handling of con-rods. See Page 20.

Order in Convenient Sets — See Page 17.

CONDENSED CHART

Most Popular Applications for Type KL Con-Rod Honing Units 1946-1956

PASSENGER CARS	KL-650	KL-681	KL-713	KL-744	KL-775	KL-806	KL-838	KL-869	KL-900	KL-931	KL-962	KL-994
BUICK									■			
CADILLAC								X				■
CHEVROLET									■			
CHRYSLER							■			■		
DESOTO							■		■			
DODGE							■		■			
FORD				■			■		■			
HUDSON				■						■	■	
LINCOLN				■			■		■			
MERCURY				■					■			
NASH						X		X	■			
OLDSMOBILE							■			■		
PACKARD								X		■		
PLYMOUTH							■			■		
PONTIAC									■	■		
WILLYS							■					
TRUCKS												
CONTINENTAL		X					■					
DODGE							■		■		■	
FORD				■			■		■			
GMC									■	■	■	
INT'L.								X	■			
MACK							■					■
STUDEBAKER				■				X				
WHITE								X				■

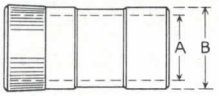
■ Included in Set LBN-60.

COMPLETE HONING UNIT				REPLACEMENT PARTS (Included in Complete Honing Unit)							
				MANDREL (Including Wedge)		STONES (12 per Box)		SHOE (2 in Box)		TRUING SLEEVE	
ORDER Part No.	Size Range (Inches)	Length of Honing Stone Surface (Inches)	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs. per Box	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.
ALL-STEEL HONING UNITS											
KL-650	.650- .680	2½	2¼	KL-650M	½	Use KL-5 (Roughing Stone for fast removal of stock in bronze bushings)	¾	Not replaceable		S-650	1
KL-681	.681- .712	2½	2¼	KL-681M	½			Not replaceable		S-681	1
KL-713	.713- .743	2½	2¼	KL-713M	½			Not replaceable		S-713	1
LIFE-TIME HONING UNITS						Or use KL-13 (Finishing stone for bronze bushings)	¾	UA-B	¼	S-744	1
KL-744*	.744- .774	2½	2¼	KL-744M	½			UA-B	¼	S-775	1
KL-775	.775- .805	2½	2¾	KL-775M	¾			UB-B	¼	S-806	1
KL-806	.806- .837	2½	2¾	KL-806M	¾			UB-B	¼	S-838	1
KL-838*	.838- .868	2½	2¾	KL-838M	¾			UB-B	¼	S-869	1
KL-869	.869- .899	2½	2¾	KL-869M	¾	Use KL-14 Stones for honing press-fit type rods. (See chart on Page 8.)	¾	UC-B	¼	S-900	1
KL-900*	.900- .930	2½	3	KL-900M	1			UC-B	¼	S-931	1
KL-931*	.931- .961	2½	3	KL-931M	1			UC-B	¼	S-962	1
KL-962*	.962- .993	2½	3	KL-962M	1			UC-B	¼	S-994	1
KL-994*	.994-1.024	2½	3	KL-994M	1						

* Included in Set LBN-60.

ALIGNMENT BUSHINGS FOR KING PIN WORK

For use when honing spindle bodies with needle bearing in one end



The easy, accurate way to fit king pins in spindle bodies with needle bearing in one end. Insert alignment bushing in place of needle bearing while honing other bushing; then install new needle bearing. Sunnen alignment bushings are made of a special alloy — will not wear. Can be used with all Sunnen King Pin Mandrels (Series UL, ML, and PL).

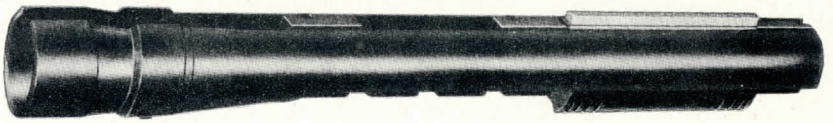
Part No.	A (King Pin Dia., Inches)	B (Spindle Body Hole, Inches)	Used with Needle Bearings on:
LN-555	.796	1.000	Chrysler 6, DeSoto, Dodge, Plymouth
LN-556	.750	1.000	Willys
LN-557	.866	1.190	Packard 6 and 8
LN-558	1.127	1.358	Studebaker Champion

Shipping Weight: ¼ lb. each.

For CONNECTING RODS (PIN FITTING)

LIFE-TIME HONING UNITS — Range: .990" — 2.625"

FOR LARGE CON-ROD BUSHINGS AND SMALL-BORE ENGINE CYLINDERS



FOR

- Caterpillar, Buda, Waukesha, etc.
- Briggs-Stratton, Clinton, Continental, Cushman, Kohler, Onan, Pincor, Wisconsin, etc.
- Small outboard motors, compressors, pumps, etc.

Especially well suited for use in shops with steady volume. Wear shoes are replaceable — mandrel never wears out. Stones and shoes are of proper length for honing rods. For this type of work, these Honing Units are much more economical than general purpose mandrels.

Honing Units are completely assembled, ready for use. Each Unit consists of mandrel with wedge, replaceable shoe, Medium Finish honing stone, and truing sleeve.

Notes:

1 Allow for extra stock in new bushings when selecting a Honing Unit, to make sure it will enter the hole.

2 Honing Units marked * require eccentric sleeve LN-0116. See Page 20.

3 Work Support LBN-740 is recommended for easy handling of con-rods. See Page 20.

4 PL-5 stones are available for fast roughing work. PL-13 stones are available for producing extremely fine finish. Order separately.

5 A similar type Honing Unit is available for blind hole work such as outboards, Lauson engines, and brake cylinders. Write our Sales Department for special sales bulletin on Blind Hole Mandrels.

HONING UNITS				REPLACEMENT PARTS (Included in Complete Honing Unit)								
				STONES (6 per Box)		SHOES (2 per Box)		TRUING SLEEVE		WEDGE		SHIM SETS
ORDER Part No.	Dia. Range (Inches)	Length of Honing Stone Surface (Inches)	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.	Ship. Wt. Lbs.	Part No.
1PL-1000 *	.990-1.062	3¼	5¾	PL-7	¾	VA-B	¼	ST-1000	2½	2G-P28	¼	LN-1145
1PL-1062 *	1.052-1.125	3¼	5¾			VA-B	¼	ST-1062	2½	2G-P28	¼	LN-1145
1PL-1125 *	1.115-1.187	3¼	6			VB-B	¼	ST-1125	2¼	2G-P28	¼	LN-1145
1PL-1187 *	1.177-1.250	3¼	7¾			VB-B	¼	ST-1187	2¼	2G-P28	¼	LN-1145
1PL-1250 *	1.230-1.375	3¼	7½	Medium Finish Stones (For other stones, see Note 4 above and Table on Page 8)		WB-D	½	ST-1250	3¼	2G-P28	¼	LN-1146
1PL-1375 *	1.355-1.500	3¼	7¾			WC-D	½	ST-1375	2¾	2G-P28	¼	LN-1147
1PL-1500 *	1.480-1.625	3¼	10			WD-D	½	ST-1500	4	2G-P28	¼	LN-1148
1PL-1625 *	1.605-1.750	3¼	10¾			WD-D	½	ST-1625	3¾	2G-P28	¼	LN-1148
1PL-1750	1.730-1.875	3¼	14			WE-D	½	ST-1750	5½	2G-P28	¼	LN-1148
1PL-1875	1.855-2.000	3¼	14½			WE-D	½	ST-1875	4	2H-P28	¼	LN-1148
1PL-2000	1.980-2.125	3¼	14½			WF-D	¾	ST-2000	4¼	2H-P28	¼	LN-1148
1PL-2125	2.105-2.250	3¼	17½			WF-D	¾	ST-2125	5¼	2H-P28	¼	LN-1148
1PL-2250	2.230-2.375	3¼	18			WF-D	¾	ST-2250	5	2H-P28	¼	LN-1148
1PL-2375	2.355-2.500	3¼	20¾			WG-D	¾	ST-2375	6½	2H-P28	¼	LN-1148
1PL-2500	2.480-2.625	3¼	21¾			WG-D	¾	ST-2500	6¼	2H-P28	¼	LN-1148

*Requires Eccentric Sleeve LN-0116. See Page 20.

MANDRELS FOR RECONDITIONING HYDRAULIC BRAKE CYLINDERS

MANDRELS — Range 1.0"-2.0"

For Straight Bore Wheel Cylinders and Master Cylinders

Mandrel No.	Size Range	Shipping Wt. Lbs.	Use With These Stones
HB-1000	1" to 1¼"	1½	HB Type Standard Stones (See Stone Chart) XHB Type Extension Stones
HB-1250	1¼" to 1⅜"	1½	
HB-1375	1⅜" to 1⅝"	1½	
HB-1250	1⅝" to 1¾"	1½	
HB-1375	1¾" to 2"	1½	

MANDRELS — Range 1.0"-2.0"

For Step Bore Cylinders and Blind Hole Wheel Cylinders

Mandrel No.	Size Range	Shipping Wt. Lbs.	Use With These Stones
SC-1000	1" to 1¼"	1½	SC Type Standard Stones (See Stone Chart) XSC Type Extension Stones
SC-1250	1¼" to 1⅜"	1½	
SC-1375	1⅜" to 1⅝"	1½	
SC-1250	1⅝" to 1¾"	1½	
SC-1375	1¾" to 2"	1½	

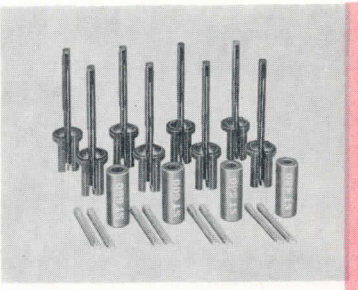
Replacement Stone Retainer Spring LN-108. Note: Truing Sleeve not required for HB and SC Mandrels.

MANDREL SETS • HONING UNIT SETS

The Easy Way To Order — Buying in sets, using but a single part number, not only simplifies ordering, but also assures having the right unit needed for the job at hand. Each set covers a particular size range or application, such as pistons, spindle bodies or con-rods. *All sets have the necessary mandrels, stones, and truing sleeves, ready for use.*

LBN-1 MANDREL SET For Small Diameters

Range .480" - .720"



These are small mandrels used mostly for sizing bushings when repairing electric motors, starters, generators and other small diameter work.

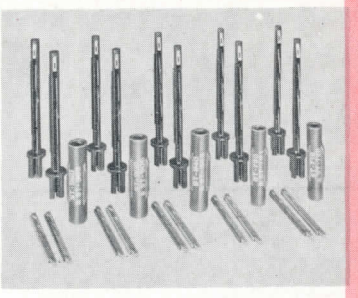
2 No. SL-480 Mandrels	1 No. ST-480 Truing Sleeve
2 No. SL-540 Mandrels	1 No. ST-540 Truing Sleeve
2 No. SL-600 Mandrels	1 No. ST-600 Truing Sleeve
2 No. SL-660 Mandrels	1 No. ST-660 Truing Sleeve
4 No. SL-1 Roughing Stones	4 No. SL-3 Finishing Stones

Shipping Weight: 11 lbs.

For convenient storage, SL-29 Mandrel Rack supplied.

LBN-2W MANDREL SET For Piston Pin Fitting

Range .720" - 1.020"



Furnished as standard equipment with the LBA-650D, LBA-664, LBA-665, LBA-666, and LBB-1300 Wet Honing Machines. This economy mandrel set handles all popular size piston pin bushings, as well as general work in the size range.

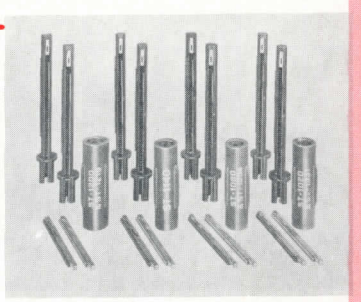
2 No. SL-720 Mandrels	1 No. ST-720 Truing Sleeve
2 No. SL-780 Mandrels	1 No. ST-780 Truing Sleeve
2 No. SL-840 Mandrels	1 No. ST-840 Truing Sleeve
2 No. SL-900 Mandrels	1 No. ST-900 Truing Sleeve
2 No. SL-960 Mandrels	1 No. ST-960 Truing Sleeve
5 No. SL-5 Roughing Stones	5 No. SL-13 Finishing Stones

Shipping Weight: 26 lbs.

For convenient storage, SL-29 Mandrel Rack supplied.

LBN-3W MANDREL SET For Piston Pin Fitting

Range 1.020" - 1.300"



This economy mandrel set handles piston pin and general work within the range shown. Recommended as an economy set for tractors and diesels.

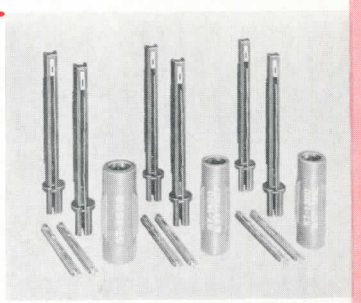
2 No. SL-1020 Mandrels	1 No. ST-1020 Truing Sleeve
2 No. SL-1080 Mandrels	1 No. ST-1080 Truing Sleeve
2 No. SL-1140 Mandrels	1 No. ST-1140 Truing Sleeve
2 No. SL-1200 Mandrels	1 No. ST-1200 Truing Sleeve
4 No. SL-5 Roughing Stones	4 No. SL-13 Finishing Stones

Shipping Weight: 27 lbs.

For convenient storage, SL-29 Mandrel Rack supplied.

LBN-4W MANDREL SET For Piston Pin Fitting

Range 1.300" - 1.600"



This economy mandrel set handles piston pin and general work within the range shown. Recommended as an economy set for tractors and diesels.

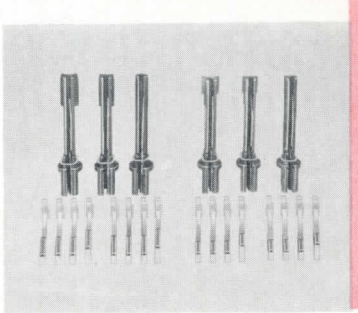
2 No. SL-1300 Mandrels	1 No. ST-1300 Truing Sleeve
2 No. SL-1400 Mandrels	1 No. ST-1400 Truing Sleeve
2 No. SL-1500 Mandrels	1 No. ST-1500 Truing Sleeve
3 No. SL-5 Roughing Stones	3 No. SL-13 Finishing Stones

Shipping Weight: 25 lbs.

For convenient storage, SL-29 Mandrel Rack supplied.

LBN-8W MANDREL SET For Hydraulic Brake Cylinders

Range 1.000" - 2.000"



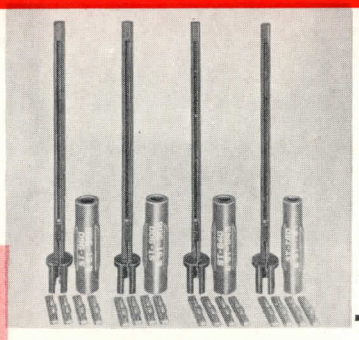
For reconditioning popular hydraulic brake cylinders, both wheel and master.

1 No. HB-1000 Mandrel	1 No. XHB-7 Extension Stone
1 No. HB-1250 Mandrel	3 No. SC-7 Stones
1 No. HB-1375 Mandrel	1 No. XSC-7 Extension Stone
1 No. SC-1000 Mandrel	3 No. HB-13 Stones
1 No. SC-1250 Mandrel	1 No. XHB-13 Extension Stone
1 No. SC-1375 Mandrel	3 No. SC-13 Stones
3 No. HB-7 Stones	1 No. XSC-13 Extension Stone

Shipping Weight: 14 lbs.

For convenient storage, SL-29 Mandrel Rack supplied.

MANDREL SETS • HONING UNIT SETS



LBN-42 MANDREL SET For King Pin Fitting

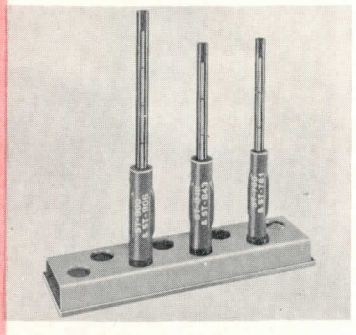
Range .795" - 1.070"

For Chevrolet, Plymouth, Ford and other popular cars and light trucks. A popular economy set for handling all king pin sizes in the range shown. Stones and truing sleeves included. See Page 12.

1 No. 4UL-781 Mandrel — 1 ST-781 Truing Sleeve
1 No. 4UL-843 Mandrel — 1 ST-843 Truing Sleeve
1 No. 4UL-906 Mandrel — 1 ST-906 Truing Sleeve
1 No. 4UL-968 Mandrel — 1 ST-968 Truing Sleeve
16 No. UL-7 Stones

Shipping Weight: 19 lbs.

For convenient storage, order SL-29 Mandrel Rack supplied.



LBN-57 LIFE-TIME HONING UNIT SET For King Pin Fitting

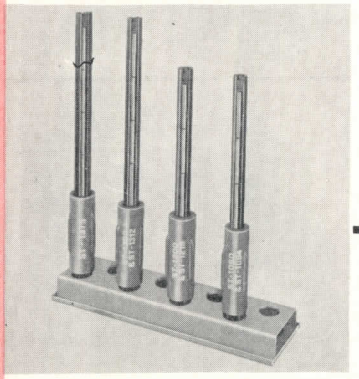
Range .775" - .942"

For passenger car and light truck work. These are extra long mandrels that hone both bushings at once. Set contains 3 complete Honing Units with ML-7 medium finish stones, assembled ready for use. See Page 13.

1 4ML-781
1 4ML-843
1 5ML-906

Includes SL-38 Mandrel Rack.

Shipping Weight: 21 lbs.



LBN-58 LIFE-TIME HONING UNIT SET For King Pin Fitting

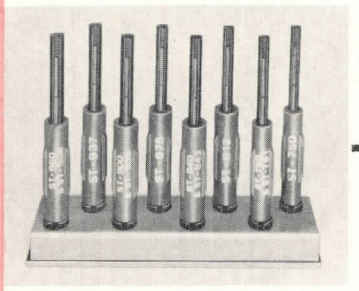
Range 1.084" - 1.500"

For medium and heavy duty truck work. This set is a continuation of Set LBN-57. It contains 4 complete Honing Units, assembled ready for use. See Page 13.

1 4PL-1094 — 1 5PL-1312
1 4PL-1219 — 1 5PL-1375

Includes SL-38 Mandrel Rack.

Shipping Weight: 44 lbs.



LBN-59 LIFE-TIME HONING UNIT SET For Piston Pin Fitting

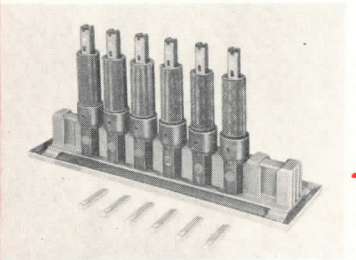
Range .744" - 1.000"

A set of 8 Life-Time Honing Units for volume pin fitting. This set is recommended for all shops that do a steady pin fitting business. It contains 8 complete Honing Units, assembled with ML-7 medium finish honing stones, ready for use. See Page 11.

1 3ML-750 — 1 3ML-875
1 3ML-781 — 1 3ML-906
1 3ML-812 — 1 3ML-937
1 3ML-843 — 1 3ML-968

Includes SL-38 Mandrel Rack.

Shipping Weight: 25 lbs.



LBN-60 LIFE-TIME HONING UNIT SET For Con-Rod Bushings, and Press-fit Type Rods

Range .744" - 1.024"

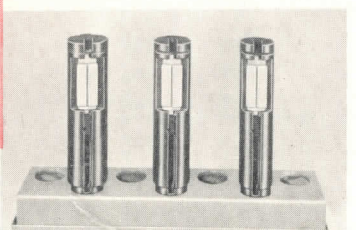
Contains 6 complete Life-Time Honing Units designed especially for accuracy and speed in honing con-rods. See page 12. For press-fit type rods, order KL-14 stones separately (see chart page 8).

KL-744 — KL-900 — KL-962
KL-838 — KL-931 — KL-994

All Honing Units are assembled with KL-5 roughing stones, ready for use. Six additional KL-13 finishing stones are included.

Includes SL-29 Mandrel Rack.

Shipping Weight: 20 lbs.



LBN-61 LIFE-TIME HONING UNIT SET For Con-Rod Reconditioning

Range 1.900" - 2.500"

A set of 3 complete Life-time honing units for most popular cars and light trucks. Covers diameters from 1.900"-2.500". Includes everything needed for honing journal end of con-rods.

CR-1900 — CR-2300
CR-2100

Includes SL-37 Mandrel Rack.

Shipping Weight: 28 lbs.

New! SUNNEN B-12 PIN INSERTER!

The fastest, and foolproof way to disassemble and reassemble pistons and rods with press-fit!

CHEVROLET
BUICK
CADILLAC
NASH†

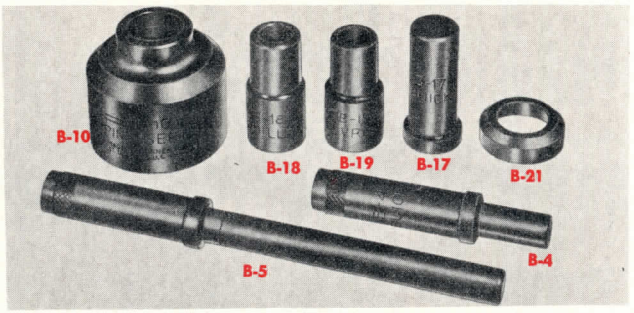
B-12 Basic set handles Chevrolet, Buick, and Cadillac press-fit type rods. Adapters will be made available if other engines change to press-fit rods. Write for additional information.

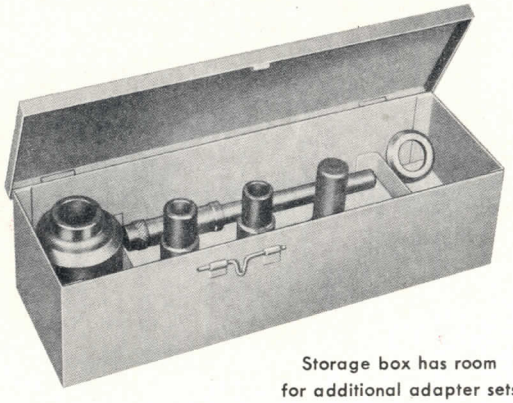
- Most versatile tool for the job.
- Removes wrist pin in one operation.
- Reassembles piston and rod in one operation.
- Positive stop centers pin in piston bosses.
- Cannot collapse piston.
- All parts hardened to prevent wear.
- Fits any press with 10½" opening.
- Requires no additional tools.
- A Sunnen quality tool — priced for everyone.

B-12 Set for Chevrolet, Buick, Cadillac.
Includes B-105 Storage Box. *Ship. Wt. 5¾ lbs.*

B-20 Buick adapter set for use with earlier Model B-10 Pin Inserter	*Shipping Weight: 1¼ lbs.*
B-40† Nash adapter set for use with B-12 Pin Inserter	*Shipping Weight: 1¼ lbs.*
B-105 Storage Box	*Shipping Weight: 2 lbs.*

†Order Separately





Storage box has room for additional adapter sets

REPLACEMENT PARTS (Incl. in B-12 Basic Pin Inserter)

Part No.	Description
B-4*	Buick Driver
B-5	Chevrolet and Cadillac Driver
B-10	Base Assembly
B-17*	Buick Guide Pin Assembly
B-18	Cadillac Guide Bushing
B-19	Chevrolet Guide Bushing
B-21*	Buick Reducing Ring
B-105*	Storage Box

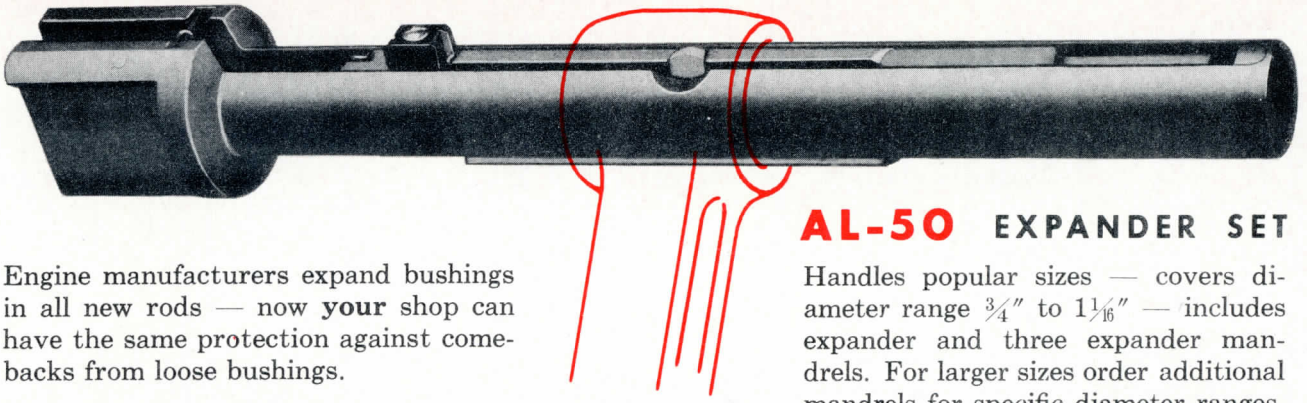
Included in B-20 Buick Adapter Set.

REPLACEMENT PARTS for B-40 NASH Adapter Set

Part No.	Description
B-2	Driver (Nash 10-40)
B-3	Driver (Nash 50-60)
B-15	Guide Bushing (Nash 10-40)
B-16	Guide Bushing (Nash 50-60)
B-22	Reducing Ring (Nash 10-40)

Another use for your Versatile Sunnen Pin Fitting Machine

SUNNEN BUSHING EXPANDER



Engine manufacturers expand bushings in all new rods — now **your** shop can have the same protection against comebacks from loose bushings.

The Sunnen bushing expander positively locks bushings tight in all rods, even those worn, stretched, or out-of-round. Also recommended for expanding piston and spindle body bushings.

- **Assures 100% contact for perfect heat transfer.**
- **Additional protection for your pin fit.**
- **Squeezes bushing into every hole irregularity.**
- **Assures full life from bushings.**
- **Takes only two minutes for eight rods.**
- **Trims bushing edges square and clean.**
- **Fits all Sunnen Pin Fitting Machines.**

AL-50 EXPANDER SET

Handles popular sizes — covers diameter range ¾" to 1 1/16" — includes expander and three expander mandrels. For larger sizes order additional mandrels for specific diameter ranges. One AL-12 Expander serves all "AL" mandrels. *Shipping Weight: 6 lbs.*

AL-12 Expander

For International, Pontiac, Ford, Mercury, Lincoln, Chevrolet, Chrysler, DeSoto, Dodge, Plymouth, etc. . . .

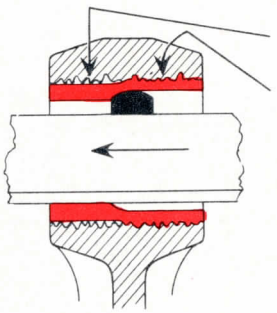
CONDENSED CHART

Most Popular Applications For Type AL Bushing Expander Mandrels 1946-1956

Passenger Cars	AL-720	AL-840	AL-960	AL-1080	AL-1200	AL-1300	AL-1400
CADILLAC		■	■				
CHRYSLER		■	■				
DESOTO		■					
DODGE		■					
FORD	■	■					
HUDSON	■		■				
LINCOLN	■	■					
MERCURY	■	■					
NASH	■	■	■				
OLDSMOBILE		■	■				
PACKARD		■	■				
PLYMOUTH		■	■				
PONTIAC		■	■				
WILLYS		■					
TRUCKS							
CONTINENTAL		■	■				
DODGE		■	■	X			
FORD	■	■					
GMC		■	■	X	X		
INT'NAT'L		■		X			
MACK		■	■	X			X
REO			■			X	
WHITE		■	■	X	X		

■ Included in Set AL-50.

WHEREVER BUSHINGS ARE REPLACED!



Pressed-in bushing fits only the high spots.

Expanded bushing is *Locked-in* to fit rod perfectly.

Keeps bushings from coming loose in rods pounded out-of-round.

CAUTION: Do not use these mandrels for honing.

Two Ways to Order

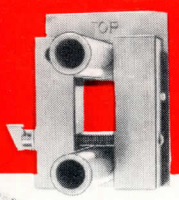
A **Order Complete set AL-50, ready for use.**

B
1. Order individual mandrels as needed.
2. Order expanders separately.

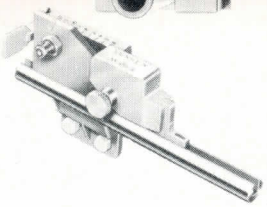
Standard Expander Mandrel	Diameter Range (inches)	Expander (includes facing cutter)	Heavy Duty Expander Mandrel
AL-720*	.720- .840	AL-12*	ALH-720
AL-840*	.840- .960	AL-12	ALH-840
AL-960*	.960-1.080	AL-12	Note: These mandrels are made of hardened steel to give long life under extensive service as needed in production engine rebuilding.
AL-1080	1.080-1.200	AL-12	
AL-1200	1.200-1.300	AL-12	
AL-1300	1.300-1.400	AL-12	
AL-1400	1.400-1.500	AL-12	

Replacement Facing Cutter (for AL-12)—No. AL-144.

* Included in Set AL-50.



ACCESSORIES for Sunnen Honing Machines and Bushing Grinders—



Pin Fitting Gage—DDN-35

Range .720" to 1.750"

Especially recommended for WET HONING. Redesigned for greater accuracy, it eliminates the "cut and try" method—puts pin fitting on a production basis. Automatically adjusts itself for wear. Furnished complete with setting fixture.

Shipping Weight: 6 lbs.

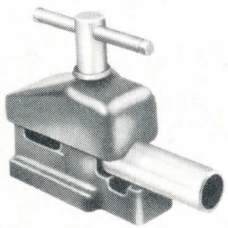
Setting Fixture Only—AG-280.

Shipping Weight: 3 lbs.

Small Pin Fitting Gage—DDN-55

Features same as DDN-35 except range is .485" to 1.250".

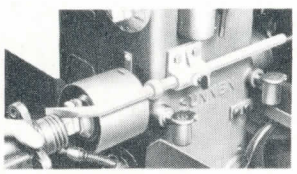
Shipping Weight: 5 lbs.



Improved Pin Fitting Vise—AAN-45

Don't ruin your pins by clamping in a regular vise. This new vise handles piston pins and king bolts, and is guaranteed not to injure pin. Eliminates driving and will save time on every pin job.

Shipping Weight: 3 lbs.



Stroking Stop—MAN-375A

Particularly useful on blind hole work, step bore cylinders and master cylinders. Saves time and guarantees accurate work—prevents stroking work too far over stone. Quickly set up to stop the stroke at the right depth.

Shipping Weight: 1½ lbs.

Mandrel Rack—SL-29

Holds 16 mandrels. Eliminates stone breakage caused by improper storage. Sturdy all metal construction. Requires only 5" x 16¾" of bench space. A convenient place to keep your mandrels and truing sleeves.

Shipping Weight: 4½ lbs.

Roughing Cutter—SL-15

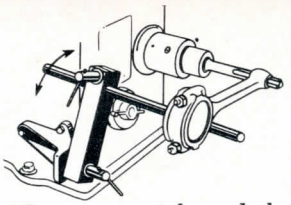
The Roughing Cutter is furnished to provide a quick means of removing large amounts of stock as in new bushings. It is strictly a fast roughing operation and must be followed by roughing and finishing stones. For use only in mandrels from No. SL-720 up.

Shipping Weight: ¼ lb.

Spindle Drive Belt—LBN-310 For 2-speed bench machines. *Shipping Weight: 1 lb.*

Spindle Drive Belt—MAN-310 For 4-speed floor-type machines. *Shipping Weight: 1 lb.*

Honing Oil Pump Belt—LBN-580 For 2 & 4 speed machines. *Shipping Weight: 1 lb.*



Work Support—LBN-740

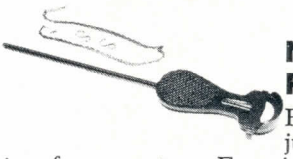
For effortless honing—increased accuracy. A "MUST" for honing con-rods and heavy parts. Supports weight and absorbs honing torque. Adjustable to accommodate various lengths of rods and spindle bodies. Slides back when not in use.

Shipping Weight: 11 lbs.

LBA-640 Wet Conversion Unit

Converts your dry Sunnen bushing grinder into a wet honing machine!

Complete with tank, honing oil, pump, folding drain pan and instructions. Can be installed in less than an hour.



New Extension Foot Pedal—LBA-442

Foot pedal length can be adjusted to most convenient position for operator. Especially useful when going from short to long mandrels, or vice versa.

Shipping Weight: 4½ lbs.

Sunnen Honing Oil

Developed exclusively for honing. Especially blended to insure fast cutting with longer stone and mandrel life—keeps stones clean and free cutting.

MAN-845 . . . . . 5 gallon can

(Four 5-Qt. Cans) Shipping Weight: 45 lbs.

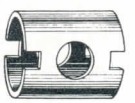
Do Not Substitute Kerosene, Water-soluble Oils, or Other Imitations.

Note—MAN-845C—Honing Oil:

Less than 25 Gallons—F.O.B. Chatham, Ont.

25 Gallons or more, F.O.B. below points: Vancouver, B.C.,; Calgary, Alta.; Edmonton, Alta.; Saskatoon, Sask.; Regina, Sask.; Winnipeg, Man.; Sarnia, Ont.; Toronto, Ont.; Ottawa, Ont.; Montreal, Que.; St. John, N.B.; Halifax, N.S., St. John's, Nfld.

Eccentric Sleeve—LN-0116



Adapts certain mandrels to machine chuck. Compensates for mandrel run-out. One required per machine. *Shipping Weight: 1 lb.*

Pin Hole Cleaning Brush—LBN-427A For use with dry machines. *Shipping Weight: ¼ lb.*

Stone Treating Stick—LN-178 For cleaning and lubricating the stone in dry honing operation. *Shipping Weight: ¼ lb.*

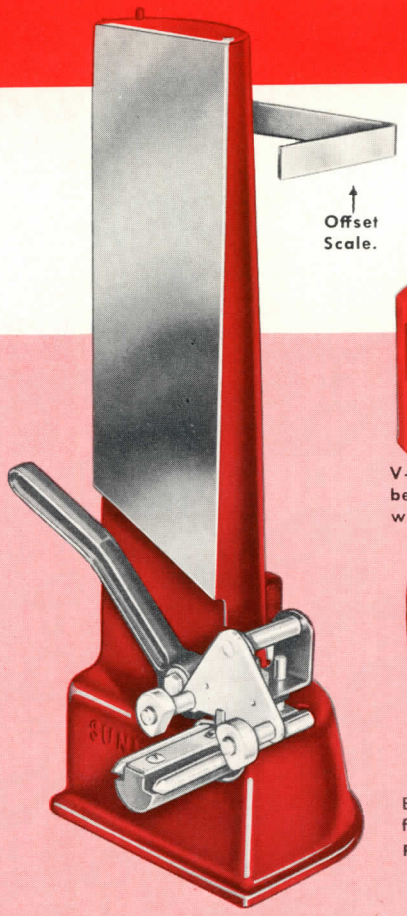
Stone Dresser—LBN-700 For dressing and truing stones and mandrels. *Shipping Weight: ¼ lb.*

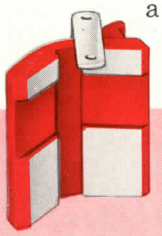
Mandrel Selector—LN-185 Slips into hole to be honed; tells you the proper size mandrel to use. *Shipping Weight: ½ lb.*

Plastic Machine Cover—LBA-598 *Shipping Weight: ½ lb.*

SUNNEN TN-111 QUICK-CHECK ROD ALIGNER

Fastest Rod Checker on the Market





V-Block for checking bend and twist of rods with pistons assembled.

Bend and twist indicator for checking rods with pin only.

Your Best Insurance Against Comebacks

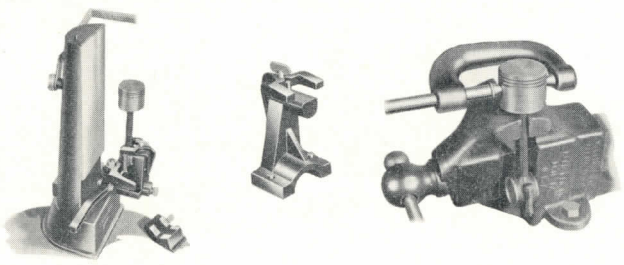
Don't risk ruining your good motor rebuilding job by using a bent or twisted rod.

Compare These Exclusive Features:

- A precision checking instrument that stays accurate because rods are not corrected on the aligner.
- Checks for bend, twist, and offset in less than a minute.
- Check is made against a precision-ground surface, on a stress relieved casting.
- Checks rods with or without pistons — with or without caps.
- Extra long checking surfaces handles all rods — from 1¾" diameter passenger car to 3½" diameter truck, bus and tractor rods — up to 16½" long.
- Compensated for ring lands, cam-ground and tapered pistons.
- Exclusive Sunnen bending bar corrects rods the right way; at the pin end, to prevent flexing in operation.
- Self-aligning yoke clamps rods securely and square, including miter-cut rod forgings.

TN-111 Complete Unit — includes Rod Aligner, V-block, Bend and Twist Indicator, Bending Bar.

Shipping Weight: 45 lbs.

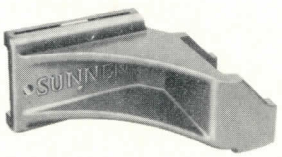


TN-120 MIDGET ROD ALIGNER

Enables the owner of a Sunnen Rod Aligner to profitably service small engines, such as compressors, refrigerator units, etc. Consists of a fixture that clamps on the mandrel of the Rod Aligner, a V-block, and a Bending Clamp, as illustrated. Handles all rods with a crankshaft bearing of 1⅛" to 1½" diameter.

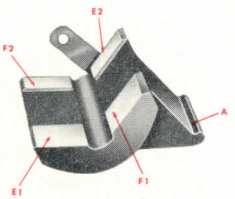
Shipping Weight: 7½ lbs.

Replacement Parts



TN-50 Bend and Twist Indicator. The Bend and Twist indicator is used for checking the alignment of a rod when the piston is not assembled.

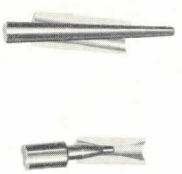
Shipping Weight: 2½ lbs.



TN-46 V-Block

The surfaces E-2 and F-2 contact the ring lands, E-1 and F-1 contact the skirt. These lapped surfaces are all parallel to the checking surface "A". This method of checking guarantees high accuracy with both cam-ground and tapered pistons.

Shipping Weight: 2 lbs.

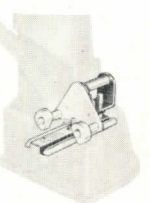


TN-40 Bending Bar

The Bending Bar is fitted with two tapered tool steel points. The large point is used on regular pins — assures accurate bending without damage to pin. The small point is used with small tapered bore pins.

Shipping Weight: 5¾ lbs.

TN-59A Universal Rod Clamp



Converts your TN-110 Sunnen Rod Aligner to the new TN-111.

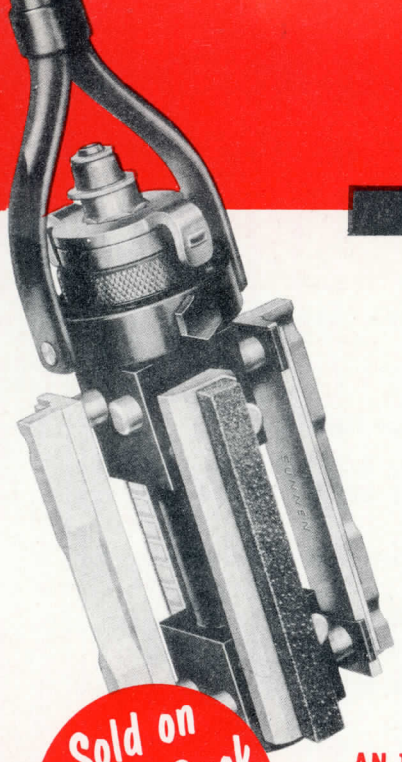
- Self-aligning yoke clamps all rods securely and square, including miter-cut rod forgings.
- Increases the range to handle rods from 1¾" diameter passenger car to 3½" diameter truck, bus and tractor rods — up to 16½" long.

Complete instructions furnished.

Shipping Weight: 5 lbs. (approx.)

WORLD FAMOUS

Light weight . . . fastest to adjust . . .



Sold on Money Back Guarantee

STANDARD CYLINDER GRINDER *Range: 2½" to 7"*

- **FOR COMPLETE or PARTIAL HONING, or FOLLOWING BORING BAR**
- The fastest and most accurate (to one-half thousandth) hone for cylinder reconditioning in cars, trucks, tractors, stationary engines.
- The only method that maintains alignment of the original bore.
- Reconditions cylinder bore with less stock removal than other methods — maintains uniform wall thickness — assures longer block life.
- Produces any finish specified by engine and ring manufacturers.
- Recommended for fast seating of chrome rings.
- Correct stone length for modern over-square engines.
- Fast stock removal — up to five thousandths per minute.
- Can be set up in a few minutes — no studs to remove.

AN-111 STANDARD CYLINDER GRINDER

Shipped with roughing and medium finishing stone sets (AN-100, AN-300) for range 2 11/16" to 4¼". Stone sets available for complete range 2½" to 7" (see chart below).

Shipping Weight: 8½ lbs.

AN-110 STANDARD CYLINDER GRINDER

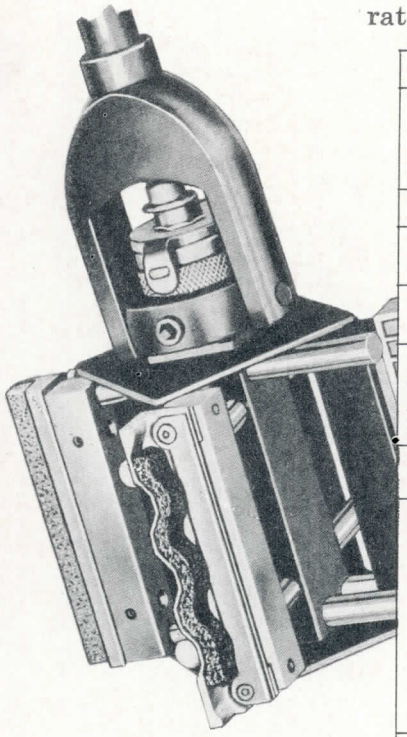
Same as AN-111 except shipped with roughing, coarse finishing, and polishing stone sets (AN-100, AN-200, AN-500).

Shipping Weight: 9 lbs.

HEAVY DUTY CYLINDER GRINDER *Range: 4¾" to 14½"*

AN-812 has same quality features as standard cylinder grinders above. Recommended particularly for large truck and stationary engines, with cylinder bores 4¾" to 14½". Equipped with heavy duty universal joint and two ¾" drive shanks, 12" and 24" long. Order stone sets, master holder sets, and stone supports separately (see chart).

Shipping Weight: 12 lbs.



AN-812 HEAVY DUTY CYLINDER GRINDER

STONE SETS* AND ACCESSORIES FOR AN-110, AN-111 & AN-812 CYLINDER GRINDERS

Diameter Range (inches)	For Use In	Roughing Stone Set (60 grit)	Coarse Finishing Stone Set (150 grit)	Polishing Stone Set (280 grit)	Medium Finishing Stone Set† (220 grit)
2½ -2¾	**Cast Iron Cylinder Blocks**	**AN-115**	**AN-215**	**AN-515**	
2 11/16-4¼	**Cast Iron Cylinder Blocks** Hardened Cylinder Sleeves	**AN-100** AN-130	**AN-200** AN-230	**AN-500** AN-530	**AN-300**
3¾ -5½	**Cast Iron Cylinder Blocks** Hardened Cylinder Sleeves	**AN-101** AN-131	**AN-201** AN-231	**AN-501** AN-531	**AN-301**
4¾ -14½ Use this stone set with Master Holder Sets and Stone Supports below.	**Cast Iron Cylinder Blocks** Hardened Cylinder Sleeves	**AN-106** AN-136	**AN-206** AN-236	**AN-506** AN-536	**AN-306**

*Shipping Weight: 1½ lbs. per set.

†To follow boring bar or AN-100 rough honing operation. Use dry.

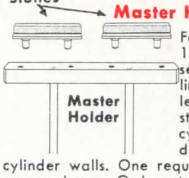
Single Length Master Holder Sets

For range 4¾" to 14½". One required for each range shown. Order stone sets separately.

Stone Supports

To provide stability and prevent chatter, stone supports must be used in diameters above 6 inches.

Double Length Master Holder Sets



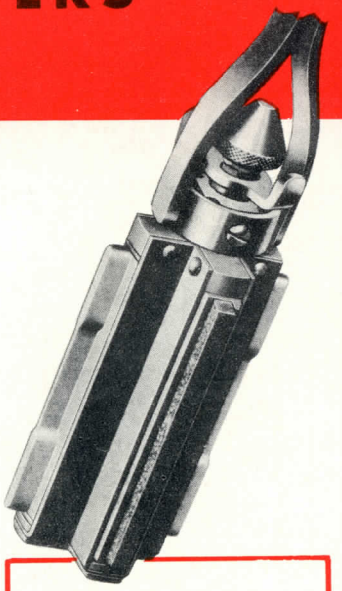
For range 5" to 14½". Uses two sets of stones in line for 8" stone length; provides stability in long cylinders; straddles ports in cylinder walls. One required for each range shown. Order stone sets separately.

Range (Inches)	Single Length Master Holder Set Shipping Wt. 3 lbs.	Stone Support Shipping Wt. 2½ lbs.	Range (Inches)	Double Length Master Holder Set Shipping Wt. 5 lbs.
4¾ to 7	AN-355	Not Required	5 to 7	AN-855
6 to 9	AN-365	AN-260	7 to 9	AN-865
8 to 11½	AN-375	AN-280	9 to 11½	AN-875
11 to 14½	AN-385	AN-290	11 to 14½	AN-885

SUNNEN CYLINDER GRINDERS

. . . cut with least pressure

JUNIOR CYLINDER GRINDER *Range: 2.0″ to 2.6″*



Ideal for reconditioning outboard motors, lawnmowers, motorcycles, and small-bore engines such as:

Briggs-Stratton	Continental	Jacobsen	Onan	Reo
Clinton	Harley-Davidson	Lauson	Pincor	Wisconsin

JN-89 JUNIOR CYLINDER GRINDER *Range: 2.0″—2.2″*

Same features and guarantee as Standard Cylinder Grinder. Shipped with roughing, finishing, and polishing stone sets (JN-100, JN-200, JN-500) for range 2.0″ to 2.2″. Stone sets available for complete range 2.0″ to 2.6″ (see chart). *Shipping Weight: 6¾ lbs.*

JN-90 JUNIOR CYLINDER GRINDER *Range: 2.2″—2.4″*

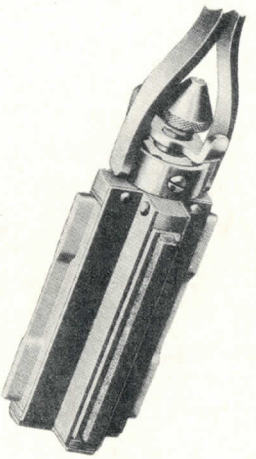
Identical to JN-89, except shipped for 2.2″ to 2.4″ range (Stone sets JN-101, JN-201, JN-501). *Shipping Weight: 6¾ lbs.*

Factory - Approved by Briggs-Stratton, Harley-Davidson, Clinton.

Stone Sets for JN-89 and JN-90 JUNIOR Cylinder Grinders *Shipping Weight: 1 lb. per set*

Dia. Range (inches)	For Use In	Roughing Stone Set (60 Grit)	Finishing Stone Set (150 Grit)	Polishing Stone Set (280 Grit)	Medium Finishing Stone Set (220 Grit)
2.0 to 2.2	**Cast Iron Cylinder Blocks** Hardened Cylinder Sleeves	**JN-100** JN-130	**JN-200** JN-230	**JN-500** JN-530	**JN-300**
2.2 to 2.4	**Cast Iron Cylinder Blocks** Hardened Cylinder Sleeves	**JN-101** JN-131	**JN-201** JN-231	**JN-501** JN-531	**JN-301**
2.4 to 2.6	**Cast Iron Cylinder Blocks** Hardened Cylinder Sleeves	**JN-102** JN-132	**JN-202** JN-232	**JN-502** JN-532	**JN-302**

MIDGET CYLINDER GRINDER *Range: 1¾″ to 2″*



SN-70 This is a new cylinder grinder to satisfy the need for quality work in the 1¾″ to 2″ range. Recommended for small compressors, outboard motors, and similar small-bore engines. Employs same principles as the Junior Cylinder Grinders.

Shipped complete with roughing, finishing and polishing stone sets (SN-100, SN-200, SN-500) for the 1¾″ to 2″ range. *Shipping Weight: 6½ lbs.*

STONE SETS FOR SN-70 MIDGET CYLINDER GRINDER *Shipping Weight: 1 lb. per set*

Range (inches)	Roughing Stone Set (60 grit)	Finishing Stone Set (150 grit)	Polishing Stone Set (280 grit)
1¾-2	SN-100	SN-200	SN-500

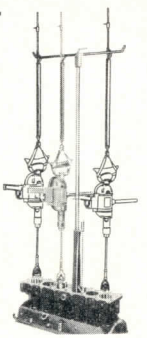
TRADE IN *YOUR OLD CYLINDER GRINDER ON A NEW SUNNEN! ASK FOR DETAILS.*

GN-80 GRIT REMOVER

For use with the AN-110 and AN-111 Standard Cylinder Grinders. Keeps cuttings out of the motor — saves half the clean-up time.

Handles cylinders from 2 1/16″ to 4 1/4″ diameter. *Shipping Weight: 21 lbs.*

UN-60 UNIVERSAL GRINDING STAND



Convenient, easy to use, will not damage cylinder wall. Supports weight of drill and cylinder grinder. Has adjustable stroking stop.

Shipping Weight: 18 lbs.

Cylinder Grinder Replacement Parts

Models AN-110 and AN-111

AN-28 Drive Shaft
AN-16 Pinion
AN-50 Universal Joint & Yoke

Model AN-812

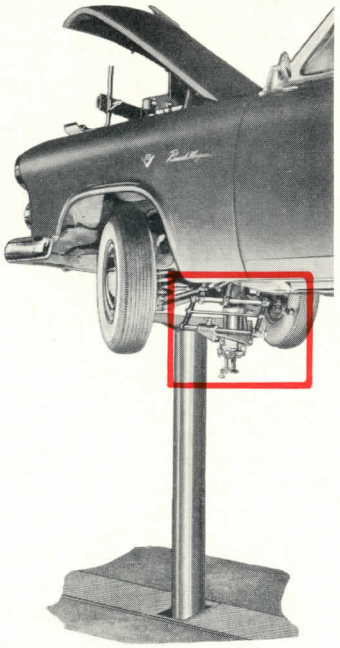
AN-628 12″ Drive Shaft
AN-728 18″ Drive Shaft
AN-828 24″ Drive Shaft
AN-16 Pinion
AN-650 Universal Joint & Yoke

Models SN-70, JN-89 and JN-90

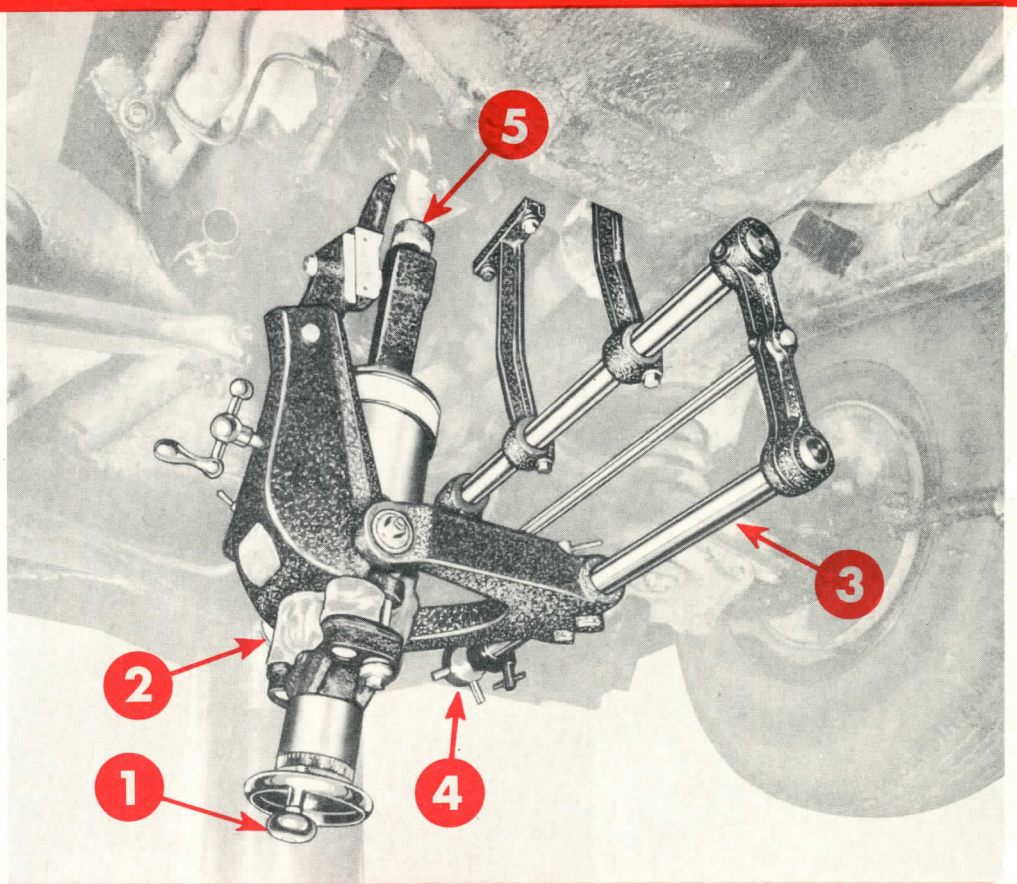
AN-28 Drive Shaft
JN-30 Universal Joint & Yoke
JN-23A Adjusting Nut Assembly

SUNNEN Precision Portable CRANKSHAFT GRINDER

Guaranteed to Produce Factory Accuracy



Underneath view of car on twin-post lift with Sunnen Precision Crankshaft Grinder in position for grinding a con-rod journal. It is not necessary to have the car level. Grinder is a self-contained, motor-driven unit — compact, light-weight, can be carried easily from job to job.



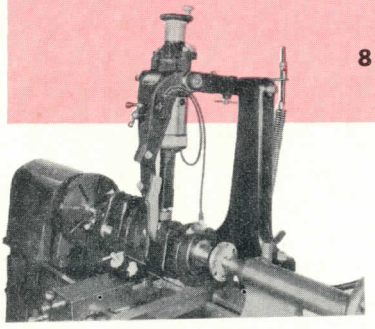
For UNDER-THE-CAR and Lathe Use . . .

Fastest and Biggest Money-Maker for Your Shop!

- Portable, grinds rod journals in the car.
- A precision grinder — the *only* portable crankshaft grinder that will do what it's *set* to do.
- Accuracy independent of operator's skill.
- Alignment positively maintained; journals ground straight and round.
- Grinding is done dry — no coolants required.
- Easy to set up — and less than a minute needed to go from one journal to another.
- Removes as much as .002″ per minute — average grinding time less than fifteen minutes on typical worn journal.

Construction Features:

1. Micrometer feed controls depth of cut.
2. Eccentric Dial corrects for taper.
3. Rigid alignment bar insures factory accuracy of grind.
4. Quick-centering adjustment gives accurate alignment with journal.
5. Cup grinding wheels are self-dressing.
6. Cross Feed Screw feeds grinding wheel precisely across the journal.
7. Only three shaft follower hooks required for diameter range 1¼″ to 3½″.
8. Can be used either under the car or on a lathe.



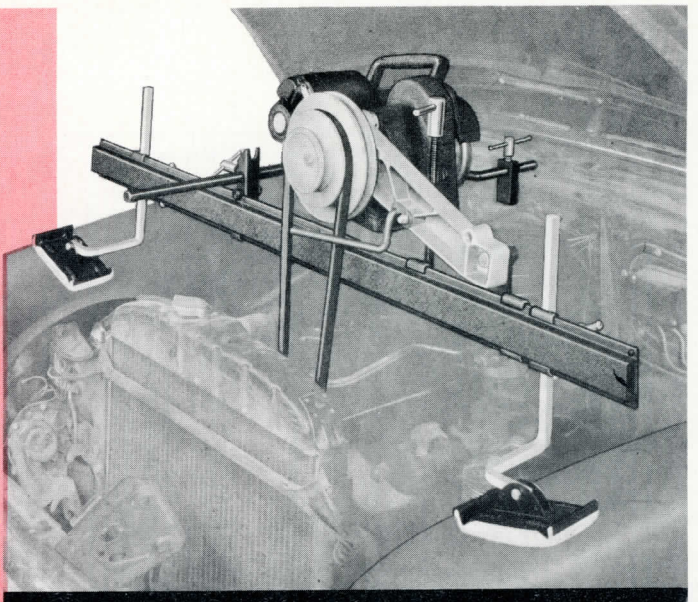
The Sunnen Precision Crankshaft Grinder mounted on a lathe, grinding a con-rod journal. Handles complete shafts in a lathe, both main and rod journals. Mounts on any lathe 16″ or larger.

Write for descriptive bulletin X-KN-5001

It gives you complete details of the Sunnen Precision Crankshaft Grinder and its operation.

UNIVERSAL CRANKSHAFT DRIVE

- For use with all makes of portable crankshaft grinders.
- Vibration-free—turns the crankshaft direct.
- Positively prevents chatter marks on the crankshaft
- For all cars, both automatic and standard transmissions.
- For passenger cars and trucks



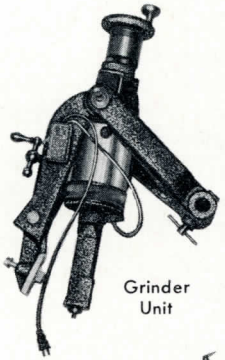
Sunnen Universal Drive mounted over the motor for direct crankshaft drive.

The Ideal Drive for

Hydramatic	Studebaker
Powerglide	Dynaflow
Fordomatic	Chrysler-DeSoto-
Merc-O-Matic	Dodge Fluid Drive
Ultra-Matic	

Turns the crankshaft directly through the crankshaft pulley. Supported by two non-slip fender pads and by a stabilizer bar on the cowl. Drive belt clears radiator connections, engine fan and generator. Adjustable to fit any model car. Quick-acting clamps adjust for fender widths and cowl distance. Three drive belts furnished, for different width crankshaft pulleys.

SUNNEN CRANKSHAFT GRINDER UNITS

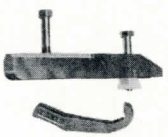


Grinder Unit

Shaft Follower Hooks Nos. 30, 20, and 10

17 Grinding Wheels

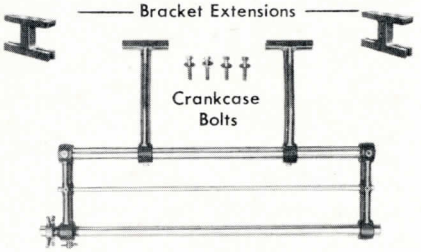
Special Crankshaft Micrometer



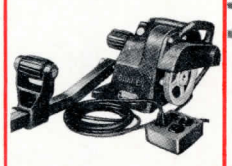
Spindle & Hook Extension

KN-300 Grinder Unit
(Includes KN-328 Accessories Case)

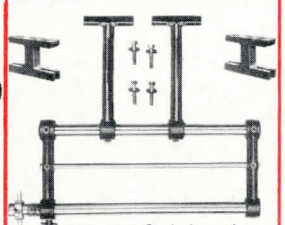
Bracket Extensions



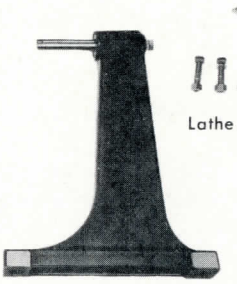
KN-650 Full-length Alignment Bar Assembly



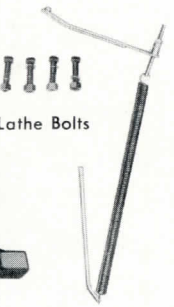
KN-1050 Rear Wheel Drive



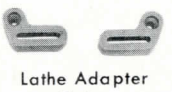
KN-690 Stub-length Alignment Bar Assembly



Grinder Pedestal



Balance Spring Assembly



Lathe Adapter Plates

Ball Shaft

Ball Clamp Assembly

KN-400 Lathe Attachments

What to Order

SUNNEN CRANKSHAFT GRINDERS, ACCESSORIES and SUPPLIES

Crankshaft Grinder Combinations

COMPLETE GRINDERS	COMPONENTS			
	KN-300 Grinder Unit	KN-1100 Drive Unit	KN-690 Stub Bracket	KN-400 Lathe Attach.
KN-1200 For portable use only *Ship. Wt.: 240 lbs.*	X	X	X	
KN-1250 For portable and lathe use *Ship. Wt.: 307 lbs.*	X	X	X	X
KN-750 For lathe use only *Ship. Wt.: 169 lbs.*	X			X

Grinder Units and Accessories:

		Ship. Wt.
KN-300	Grinder Unit. Includes KN-680....	80 lbs.
KN-650	Full-length alignment bar assembly. Grinds all rod journals without changing bracket mountings.....	50 lbs.
KN-690	Stub-length alignment bar assembly. For crankcases with offset pan rails. Also convenient for grinding one or two throws, and for avoiding obstructions.....	40 lbs.
KN-400	Lathe Attachments.....	81 lbs.
KN-680	Spindle and Hook Extension Unit (included with KN-300).....	3 lbs.

Crankshaft Drives:

KN-1100	Universal Crankshaft Drive for driving shaft through the pulley..	107 lbs.
KN-1050	Rear Wheel Drive.....	63 lbs.
KN-640	Flywheel Drive Attachment. Use with KN-1050.....	11 lbs.

Replacement Drive Belts for KN-1100:

KN-883	3/8" wide	84" long
KN-886	1/2" wide	87" long
KN-887	21/32" wide	86" long

Crankshaft Grinder Wheels†

Wheel Size (Inches)	CATALOG NUMBER For Regular Work	For Sprayed or Metalized Shafts	Shipping Weight
3/4	AFL-8	.....	1/4 lb.
7/8	AFL-12	.....	1/4 lb.
1	AFK-16*	BHG-16	1/4 lb.
1 1/16	AFK-18*	BHG-18	1/4 lb.
1 1/8	AFK-20*	BHG-20	1/4 lb.
1 3/16	AFK-22*	BHG-22	1/4 lb.
1 1/4	AFK-24*	BHG-24	1/4 lb.
1 5/16	AFK-26*	BHG-26	1/4 lb.
1 3/8	AFK-28*	BHG-28	1/4 lb.
1 7/16	AFK-30*	BHG-30	1/4 lb.
1 1/2	AFK-32*	BHG-32	1/4 lb.
1 19/32	AFK-35*	BHG-35	1/2 lb.
1 5/8	AFK-36*	BHG-36	1/2 lb.
1 21/32	AFK-37*	BHG-37	1/2 lb.
1 23/32	AFK-39*	BHG-39	1/2 lb.
1 3/4	AFJ-40*	BHG-40	1/2 lb.
1 13/16	AFJ-42	.....	1/2 lb.
1 7/8	AFJ-44*	BHF-44	1/2 lb.
1 29/32	AFJ-45*	BHF-45	1/2 lb.
1 31/32	AFJ-47*	BHF-47	1/2 lb.
2 1/16	AFI-50	BHF-50	1/2 lb.
2 1/8	AFI-52	BHF-52	1/2 lb.
2 7/32	AFI-55	.....	1/2 lb.
2 1/4	AFI-56	BHF-56	1/2 lb.
2 3/8	AFH-60	BHF-60	1/2 lb.
2 1/2	AFH-64	BHF-64	1/2 lb.

*17 Wheels indicated by * are furnished with KN-1250, KN-1200, KN-750, KN-300.

†Other wheels available on special order for hard metal sprayed shafts.

Replacement Parts

Part No.	Description	Ship. Wt.
KN-209	No. 5 Shaft Follower Hook, Range 3/4" to 1 1/4" dia.....	1 1/4 lbs.
†KN-210	No. 10 Standard Shaft Follower Hook, Range 1 1/4" to 2 1/4".....	1 3/4 lbs.
††KN-708	No. 10B Narrow Shaft Follower Hook, Range 1 1/4" to 2 1/4".....	1 1/2 lbs.
†KN-211	No. 20 Shaft Follower Hook, Range 2" to 2 1/2".....	1 3/4 lbs.
†KN-213	No. 30 Shaft Follower Hook, Range 2 1/2" to 3 1/2".....	2 1/4 lbs.
KN-215	No. 40 Shaft Follower Hook, Range 3 1/2" to 5".....	1 1/4 lbs.
†•KN-193	Shaft Follower Rest Shoes...	1/4 lb.
†KN-207	Wheel Dressing Stick.....	1/4 lb.
†KN-228	Micrometer.....	1 1/2 lbs.
▲KN-563	Junction Box with Cord and Switch.....	3 lbs.

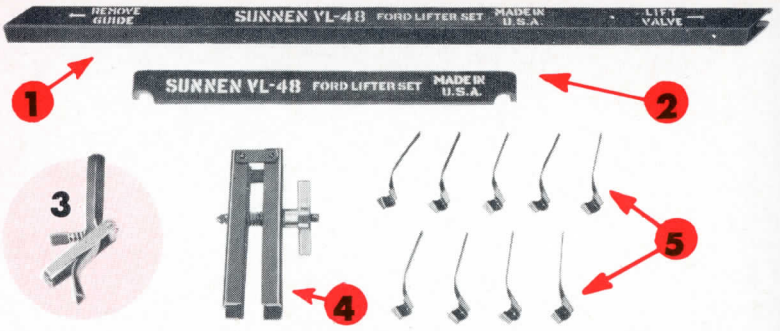
†Furnished with KN-1200, KN-1250, KN-750, KN-300.

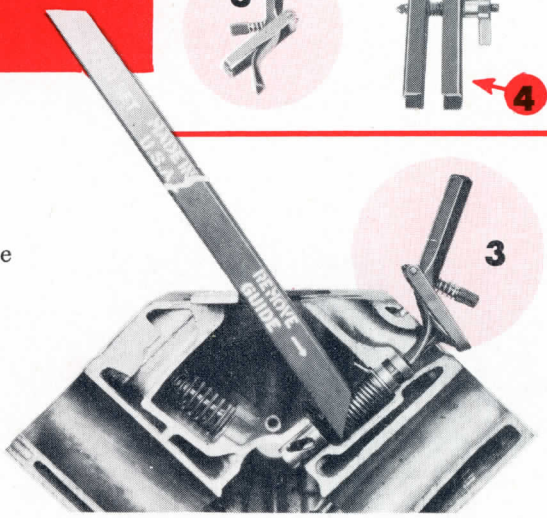
▲Furnished with KN-1200, KN-1250, KN-1100, KN-1050.

‡Also furnished with KN-680. •Packed twelve to a box.

TOOLS FOR FORD V-8 and MERCURY VALVE ASSEMBLIES

The proved method for handling the most stubborn Ford V-8 and Mercury valve assemblies.





4 Simple Steps Get Out *Any* Valve

1. Compress spring by Lifter Bar.
2. Insert Valve Guide Driver.
3. Drive valve guide down to remove lock.
4. Pry out valve assembly with Lifter Bar.

1 VL-41 Lifter Bar

Three-foot hardened and heat-treated alloy steel. Provides the leverage to remove stuck valve assemblies. Force of lifter bar is applied to bottom of valve stem—not through the spring coils.

2 VL-25 Block Protector Plate

Prevents damage to edge of block.

3 VL-43 Valve Guide Driver

The tool that "breaks" the most stubborn carbon-crusted valve assembly. Easily inserted, this machined and hardened steel forging holds the valve open as it drives down the stuck guide to remove the lock. Prevents damage to valve and valve seat. Adjustable to different size valves; has ample clearance for new close-coiled springs. Works equally well with other lifters.

4 VL-35 Spring Compressor

Permits fast dis-assembly and re-assembly. Compresses springs with a minimum of effort.

5 VL-29 Valve Prop

Heat-treated spring steel. Works on all Ford V-8 and Mercury valves. Positively holds springs compressed during re-assembly. Cannot slip out of place.

VL-48 Complete Lifter Set

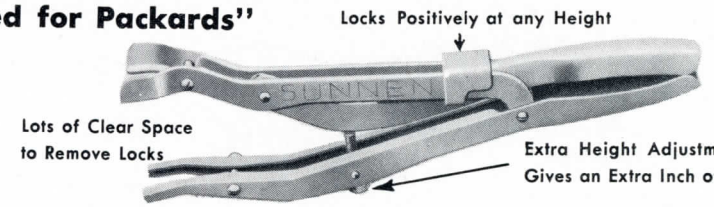
Consists of one VL-41, one VL-25, one VL-43, one VL-35 and nine VL-29. A complete set—no other accessories required to do the job.

Shipping Weight: 7½ lbs.

HL-88 HEAVY DUTY VALVE LIFTER

"Especially recommended for Packards"

The Sunnen Heavy Duty Valve Lifter is especially built to stand up under the heaviest work such as the heavy springs on truck and bus motors—yet it works equally well on small motors (including Continental). Lower jaws of channel steel construction (like the frame of an automobile) give maximum strength but make the lifter no wider and require no more room to operate than lifters of lighter construction. Upper jaws are laminated for greater strength and wider adjustment.

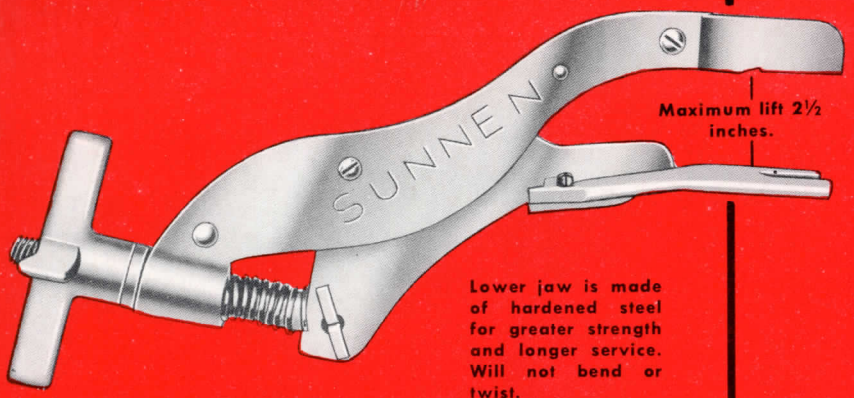


- Twice as strong as the average lifter of this type. More leverage.
- Overall length 12½ inches—so handle will clear manifold.
- Jaws raise practically parallel. Will not wedge spring on valve stem.
- Very narrow and compact. Lots of room to remove locks.
- Upper and lower jaws fully adjustable.
- The Sunnen Friction Lock will positively hold Lifter at any height—no ratchet to wear out or slip.
- Quick extra height adjustment gives an extra inch of lift. Maximum lift, 3¼ inches.
- Made of cold rolled steel, attractively finished.

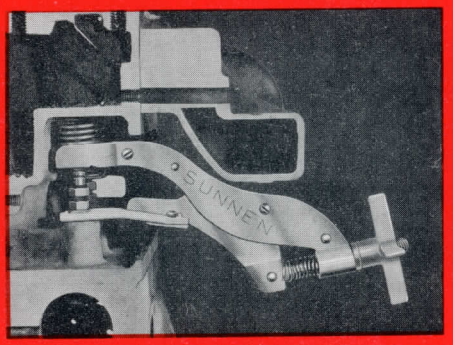
Shipping Weight: 1½ lbs.

SERVICE TOOLS

EL-100 "STUB" VALVE LIFTER



Lower jaw is made of hardened steel for greater strength and longer service. Will not bend or twist.



Cross sectional view showing the Stub Lifter in position on motor with valve spring raised.

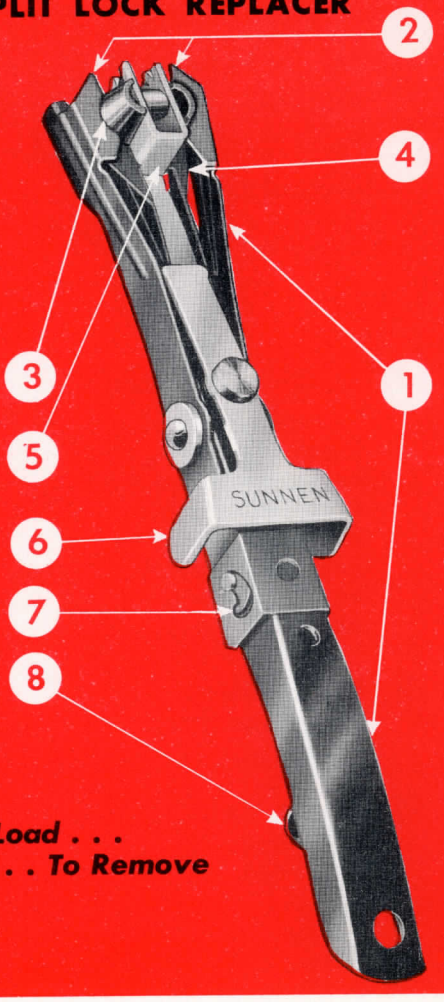
For Over 20 Years the World's Leading Valve Lifter

- No handle to strike the manifold.
- Short — only 8¾ inches long.
- Fast screw raises jaws quickly.
- Locks automatically at any height.
- Jaws raise practically parallel.
- Top jaws fully adjustable to any size spring.
- Strong — will lift over 300 pounds easily.
- Plenty of room between jaws to use split lock replacer.
- Can be operated with one hand on any valve in the motor.

Shipping Weight: 1⅛ lbs.

HL-88 Heavy Duty Valve Lifter
CL-11 Semi-Adjustable Valve Lifter
VL-48 Ford and Mercury Valve Lifter
EL-40 Lock Breaker
FFN-50 Ring Compressor

OL-105 UNIVERSAL SPLIT LOCK REPLACER



Easy to Load . . . To Use . . . To Remove

For Over 20 Years the World's Best Lock Replacer

Gets locks in "tight" places under low hanging manifolds or around fuel pumps where space is limited. Will replace locks in "blind spots" without losing any.

A Better Tool because—

1. Made of Hardened Spring Steel — will not twist or bend. **2.** Jaws are thin — will not hang-up when lifter is let down. **3.** Cut-away construction — slips around valve stem easily. **4.** Stop on lower jaw keeps locks from being pushed beyond valve stem. **5.** Sliding Tongue snaps back as locks snap into place. Tongue pushes down as lifter is released. **6.** Jaw Spreader allows fast loading of locks. **7.** Adjustable for short or long locks. **8.** Easy, non-slip grip.

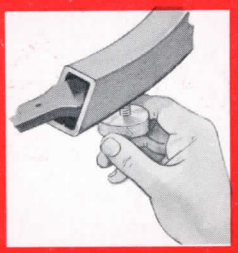
Shipping Weight: 5 oz.

SERVICE TOOLS

DL-120 HEAVY DUTY "C" TYPE VALVE LIFTER

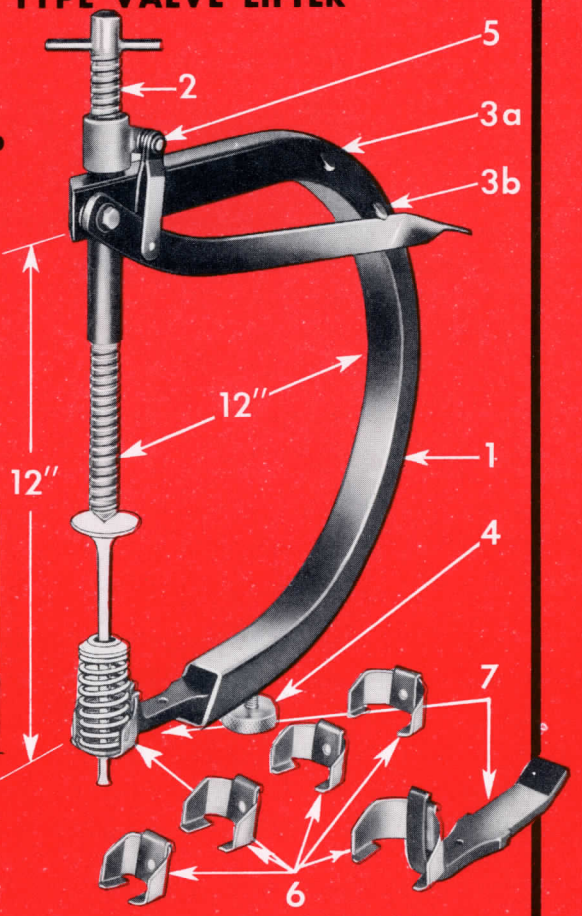
the one *"MUST"* tool for every shop that services

- Heavy Duty valve engines
- Heads with dual valve spring assemblies
- Truck and tractor engines
- Heavy duty L-head engines



Controlled Release — Saves Fingers

strongest lifter ever made — indispensable for Heavy Duty Jobs



Recommended by I-H Company (their Number SE-1849)

PN-50 AUTOMATIC TORQUE WRENCH

Fast — Accurate — Indestructible!

Scale reads in foot-pounds and centimeter-kilograms.

Range from 10 to 100 foot-pounds.

- Assures uniform torque on all studs and cap screws.
- Desired torque is quickly pre-set on scale.
- Saves time — no dials to watch.
- Positive indication when correct torque is reached — you feel and see the toggle snap over center.
- Ruggedly built to take abuse — no delicate indicators to get out of order.
- Booklet furnished to show correct torque and proper sequence of tightening head bolts.

Shipping Weight: 4¾ lbs.

This lifter has many features not found in any other lifter:

1. Heat-treated tubular frame of high carbon steel — will not twist or spread — tested to ½-ton load. Weight only 7¾ lbs.
2. Range adjusting screw — set only once for the job.
3. Locks in two positions: (a) to break frozen locks, (b) to hold compressed valve spring.
4. Safe, controlled, one-hand release of valve spring by knurled screw — leaves other hand free for positioning locks. An exclusive Sunnen feature.
5. Powerful pull-type linkage — cannot buckle.
6. Set of quick-change jaws fits springs to 2″ diameter.
7. High and low level jaw holders clear all engine obstructions.

DL-120 includes parts shown above and listed below.

DL-120 Replacement Parts

Description		Part No.
Low level jaw holder	(Jaws may be spread or closed to fit other size springs.)	DL-45
High level jaw holder		DL-50
1⅛ inch jaw		DL-51
1¼ inch jaw		DL-52
1⅜ inch jaw		DL-53
1½ inch jaw		DL-54
1⅝ inch jaw		DL-55
1⅞ inch jaw		DL-56

DL-120 *Shipping Weight: 9¾ lbs.*

PN-40 Extension

Available to increase range to 150 foot-pounds. *Shipping Weight: 1¼ lbs.*

PN-30 Male Adapter

For ½″ sockets. Use with PN-40.

Shipping Weight: ¼ lb.

SUNNEN

Sales and Service Policy

For a number of years SUNNEN PRODUCTS COMPANY has been a leader in the manufacture of Automotive engine rebuilding equipment and Industrial honing machines and tools. Our growth during these years has made it necessary to establish separate divisions for our Automotive and Industrial business. The problems in these two fields vary widely, and therefore Sunnen field representatives receive specialized training for their respective divisions.

Since we have expanded both of our sales organizations, it may be well to re-state our established distribution policy, to clarify it for our new representatives and to review it for our old friends:

Our Automotive Division sells and distributes automotive equipment through automotive jobbers to the automotive maintenance and engine rebuilding trade. We have always protected our jobbers from unfair competition, and a competent staff of field representatives with special equipment is constantly at their service to assist them with sales and servicing problems on SUNNEN Automotive Equipment.

Our Industrial Division sells and engineers the installation of industrial honing equipment to all users. Because of the variety of materials, dimensional variations, and close tolerance requirements, this field presents a vast number of technical problems. SUNNEN industrial engineers are trained to provide competent technical assistance to insure the proper use and functioning of SUNNEN industrial honing equipment.

IT HAS BEEN AND WILL CONTINUE TO BE OUR POLICY TO PROVIDE THE VERY BEST POSSIBLE SERVICE IN BOTH OF THESE FIELDS. Recommendations of the wrong equipment in either field can only lead to the dissatisfaction of the user and the ultimate discredit of Sunnen Products Company as well as reflect on the integrity of our distributors and our representatives. Mutual interests therefore dictate that our distributors in either field refrain from selling or servicing Sunnen equipment in the other field.

We appreciate your past cooperation and support of our distribution policy and want to assure you that we will maintain the high standard of quality in our merchandise and service which our customers have learned to expect from SUNNEN. We are confident that you will do your best to help us maintain this fine reputation in both the Automotive and Industrial fields.

SUNNEN®

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JANUARY, 1957

SUNNEN AUTOMOTIVE CATALOG

catalog number X-SP-6000G

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SUNNEN® Field Service

We'll be glad to demonstrate any equipment shown in this catalog, at your convenience and in your own shop. You will not be obligated in any way.

Every Sunnen field representative is a factory trained expert on Sunnen engine rebuilding equipment.

He will be glad to show you the profit-making advantages of our products, and to service our equipment and train your operators. Feel free to call on him for assistance.

We are searching constantly for ways to improve our products. Such improvements may be made at any time; therefore the specifications for products listed in this catalog may be changed without notice.

SUNNEN® PRODUCTS COMPANY LTD.

CHATHAM, ONTARIO

U.S. PLANT—ST. LOUIS, MO.

10M-1-57

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